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ABSTRACT

The Society of Women Engineers (SWE) is a nationally based, non-profit organization dedicated to encouraging women to pursue careers in the field of engineering. The specific objectives include informing young women of the achievements, qualifications and opportunities open to them; assisting women engineers in returning to active employment after temporary retirement; encouraging high levels of achievement in education and their profession; and serving as a center of information on women in engineering. Many thousands of volunteer hours are spent by members every year to implement this important task. This Ideabook was created to share career guidance ideas between SWE sections to help improve and build career guidance programs. The book is divided into six chapters: (1) "Basic Programs"; (2) "Outreach Programs"; (3) "Student Sections"; (4) "Scholarships"; (5) "Fund Raising"; and (6) "National Committee." Each chapter includes basic information about the chapter topic and a series of attachments which include forms, surveys, and examples of materials used by other sections. (CW)

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SOCIETY OF WOMEN ENGINEERS

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CAREER GUIDANCE

IDEABOOK

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ACKNOWLEDGEMENTS

Thanks to Cheryl Collarini who started the task of compiling a reference on career guidance activities, to Candace King who completed the first edition, and to all those members in between who contributed to the effort.

The Society of Women Engineers would like to thank General Motors for providing funding to print this Ideabook.

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INTRODUCTION

Compiling this Ideabook has been a very interesting experience. It's exciting to see all the innovative paths that our colleagues are taking to spread the word about engineering as a viable career option. It is one of the main goals of SWE. Many thousands of volunteer hours are spent by members every year to implement this important task. This Ideabook was created to share career guidance ideas between sections to help improve and build career guidance programs.

This Ideabook is divided into six chapters:

I. BASIC PROGRAMS

II. OUTREACH PROGRAMS

III. STUDENT SECTIONS

IV. SCHOLARSHIPS

V. FUND RAISING

VI. NATIONAL COMMITTEE

This Ideabook is designed to be actively used. It's format allows it to be easily updated and you can even add your own chapters to reflect your sections programs. You are encouraged to send any corrections or suggested additions to the current national career guidance chair using the form provided in chapter VI. The success and the future of this Ideabook depends on your input to keep it from becoming outdated.

Candace King
National Career Guidance Chair
FY 86 - 87

CHAPTER I

BASIC PROGRAMS

The basic career guidance program is just that - basic. It is more service and public recognition oriented than outreach oriented. Its importance should not be minimized, however, because a large number of contacts can be made with minimal planning hours. It also allows many busy section members to become involved on a one time basis. It helps to do a survey of your membership to determine who is willing to help. The survey can be published in the newsletter and distributed at monthly meetings. It should be readily available throughout the year for new members and old members whose commitments may have changed. A sample survey is included as attachment I-A.

CERTIFICATE OF MERIT

The SWE Certificate of Merit is presented to high school girls who have completed three years of science and three years of mathematics with distinction. A Certificate of Achievement may be awarded to a high school junior or senior who has not completed three years of science and mathematics but has achieved excellence in a related activity such as science fair, math contest, etc.

Compiling a List of Schools

Listings of area high schools are available from your State or County Board of Education. You may also try the local school districts but in large geographical areas this route could prove to be overwhelming. These resources only cover public schools. Private schools shouldn't be forgotten even if it takes a little more legwork to obtain the listings for private schools. With the listings you request from the various sources, ask for the name of the principal or counselors.

Initial Contact

Send a contact letter to all the area high schools. For a sample letter see attachment I-B. Be sure to address the letters to the principal or counselor by name. A "Dear Sir" or " To Whom It May Concern" letter will not have the same impact as a personalized letter. You can enclose a form that the principal or counselor can simply fill out and return to you (see attachment I-C). You also increase your chances of program participation if you enclose a self-addressed, stamped envelope. Make sure that you set a deadline in the letter so you can get the forms back and processed prior to the school year.

Follow-up

You can almost double your responses by sending a follow-up letter or making a follow-up phone call about five days prior to the deadline you set in your first letter.

Embossing the Certificates

The Certificates of Merit and Certificates of Achievement are available for purchase from SWE National headquarters. When you get the responses back, make a listing showing school name and award recipient. This listing should be sent to the graphic artist to emboss the names onto the certificates along with the local section name. Examples of the certificates are shown in attachment I-D. If your section has good industry support, you may be able to have the use of an in-house graphic artist donated.

Presentation of Certificates

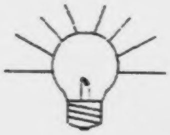
It is most effective to present the certificates in person if the school has an appropriate awards ceremony. See attachment I-E for an example of directions to the certificate presenter. If your section is in a large geographical area, you may want to appoint area coordinators to be responsible for finding presenters in their area. Send a letter to SWE members who have participated in the past encouraging them to participate again this year. You may also want to include an announcement in your section newsletter as well as making a verbal announcement at your monthly meetings encouraging participation in your Certificate of Merit activities. It is also effective to have alumnae present certificates at their own high schools.
If you are unable to find a SWE member to make the presentation in person, you can send the certificate to the principal with a letter similar to attachment I-F.

Supplement Your Program

You can also choose to introduce the Certificate of Merit recipients to careers in engineering by hosting a reception or Career Exploration Day. Many sections have had success with this kind of follow-up. Other sections have presented SWE tee-shirts or calculators as part of the award.

Thank-you Letters

A thank-you letter can be sent to the school with SWE literature enclosures such as "What Are You Doing the Rest of Your Life?" and "B.S. Requirements for a Degree in Engineering".



SPEAKERS' BUREAU

A speakers' bureau is a referral service to provide speakers on request. Many SWE members have volunteered to speak about their engineering careers to school and community groups, as well as to other engineers. If your section is like most, the majority of your career guidance requests will be filled through your Speaker's Bureau.

Get the Word Out

The first thing that you should do is print a flyer or pamphlet and form letter that can be sent out publicizing your SWE Speakers' Bureau. Many schools welcome speakers to talk to classes and career days. You should compile a list of intermediate schools in your area. You could combine this effort with the Certificate of Merit listing (see previous section for obtaining school listings). Some Boards of Education have newsletters that are distributed to their educators that could announce your speaker's bureau. A sample letter and announcement is included as attachment I-G. Copies of your flyer can be sent to service organizations such as the YWCA, YMCA, Business and Professional Women's Clubs, American Association of University Women, Rotary, Elks, and the local Chamber of Commerce. You could also contact area technical organizations such as your local Council of Engineers and Scientists, Society of Professional Engineers, and local sections of ASME, IEEE, IChE, SME, ASCE, etc. You might also want to consider using the local news media by sending press releases that mention the Speakers' Bureau and the name and phone number of a SWE contact.

Member Involvement

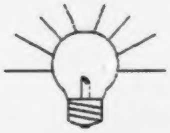
Now you need to organize your members to respond as the speaking requests come in. You can use your member volunteer questionnaire (attachment I-A) to find willing speakers. You can organize a committee of dependable SWE members who have experience in speaking to various age groups or form regional committees if your area is large. Other forms of communication to your members might include your SWE newsletter indicating upcoming events that require speaker participation and mentioning speeches that have been given by SWE members. The Speakers' Bureau committee chair might want to send letters to the section membership detailing speeches made or speakers required. If SWE section meeting minutes are mailed to the members, that would be a good way to solicit speakers.

Industry Support

Speaking engagements during the daytime require company support to allow the SWE member release time to make the presentation. You can send a letter, like the one shown in attachment I-H, if the company needs formal documentation. An acknowledgement letter thanking the company is a good idea and makes the member/employee look good, too. An annual report of SWE activities sent to industry is another way to let companies in your area know about the career guidance activities of your section and can serve as an introduction to the fact that their SWE member employees are involved in outside community activities promoting careers in engineering.

Speaker Training

Some SWE members would like to volunteer for career guidance activities but are apprehensive about speaking . This is especially true when asked to speak to school-aged groups. A speaker training workshop will help those members to feel more prepared and have confidence. A flyer announcing the workshop could be published in your section newsletter and handed out at section meetings. Golden Gate section holds their speakers' workshop in the fall to train volunteers early. Two seasoned speakers present hints for making career presentations and a member of Toastmasters gives suggestions for public speaking in general. The area coordinators and career guidance chair are introduced. The volunteers are all given speakers packets containing hints for career guidance speakers and copies of handout materials available from the section. A copy of Golden Gate section's Speaker's Packet is included as attachment I-J.



SCIENCE FAIRS

The career guidance basic program involvement in science fairs is usually to provide judges, committee members, or sponsor an award to school or professionally sponsored science fairs.

Get The Word Out

As in the speakers' bureau publicity, the first thing you have to do is notify science fair organizations that you have volunteers interested in judging or serving on the planning committee. You can contact your local school districts and use the same contacts established in the certificate of merit program. You can also write to the National Energy Foundation, National Science Foundation, National Society of Professional Engineers and local museums of science and industry to find out whether these organizations are sponsoring any science fairs in your area.

Member Involvement

Volunteers to judge science fairs may be found the same way as outlined in the Certificate of Merit and Speakers' Bureau sections of this chapter.

Awards

The section may want to consider sponsoring an award to be presented to the top female winner in specific categories. This could be a cash award or other prize (calculator, tee-shirt,etc.) accompanied by a Certificate of Achievement.

Sponsoring Your Own

If your area doesn't have a science fair, your section might want to consider organizing one. You will need to decide what age range it will span and what geographical area. Whereas science fairs are usually given for junior and senior high school ages, consider an elemantary school fair. One district elementary school science fair awarded the Best of Show to a kindergarten project titled "Which Soap Makes the Best Bubbles?". The project was based on scientific inquiry and proved to be useful research for a kindergartner. You could co-sponsor a fair with other organizations such as the school district, AAUW, etc. You will need to solicit projects, arrange judges and other volunteers, get prize donations and conduct an awards ceremony.

CHAPTER I

ATTACHMENTS

CAREER GUIDANCE SURVEY

Fellow SWE Member:

The Career Guidance Committee would like to put together a list of members who are interested in career guidance activities for the 1986-1987 year. If you are willing to help and did not submit last year or wish to update your survey, please mail completed form to:

Georgie Oates
P. O. Box 214
Drake, CO 80515

Name______________________________

Home Address_________________________

_________________________ Home phone__________

Employer___________________________

Employer Address_____________________

_____________________ Empl. phone__________

I would like to be contacted at ☐ Home ☐ Work

My engineering specialty is_____________________________

A proposed list of career guidance activities is indicated below. Indicate your interest. A short description of each activity is on the back of this sheet.

1. ☐ Speaking to junior or senior high school students.
   Indicate frequency: once/yr. twice/yr. once/month anytime other(specify)
2. ☐ Job Fairs or Career Days.
3. ☐ SWE High School Certificate of Merit Program.
4. ☐ Colorado State Science Fair (Fort Collins).
5. ☐ Regional or local science fairs.
6. ☐ Gates Program on Careers in Engineering.
7. ☐ Colorado State University "Expanding Your Horizons".
8. ☐ Liaison for student SWE groups.
9. ☐ Working Women's Exposition.
10. ☐ Speaker's Packet Development
11. ☐ High School Shadow Program.
12. ☐ Slide-tape show marketing.

(Over)

ATTACHMENT
I-A

Indicate geographical preference:

☐ Denver ☐ Jefferson County ☐ Littleton/Englewood
☐ Boulder ☐ Fort Collins/Greeley ☐ Colo. Springs
☐ Western Slope ☐ Colorado ☐ Wyoming ☐ Eastern Colo
☐ Arapahoe/ Douglas County ☐ Other (specify)____________

Indicate time preference:

☐ Weekdays ☐ Evenings ☐ Weekends

Comments on career guidance activities for SWE_______________

____

____

Description of Activities

1. Speaking to junior or senior high school students. SWE Member usually shows slide-tape show and discusses how she got into the field of engineering. Sessions usually last the length of a class session, 45 to 60 minutes. Usually weekdays.
2. Job fairs or Career days. Similar to the above, but may be at a booth to distribute information. May involve a half or full day. Some fairs have been held in the evenings.
3. SWE High School Certificate of Merit Program. A letter is sent to all Colorado High Schools asking them to nominate (3) girls who have distinguished themselves in science and math. SWE members letter certificates and mail them to the schools.
4. Colorado State Science Fair. Fair is held in Fort Collins in mid-April. On a Thursday, SWE Members judge junior and senior projects that are related to engineering. Awards are given out at a luncheon the following Saturday.
5. Regional or local science fairs. Schools request that SWE Members judge science projects at individual schools or regionally.
6. Gates Program on Careers in Engineering. In the past the program has been held in the evening in October. Counselors, students, parents and teachers are invited to hear a talk on careers in enginerring. SWE Members are on a panel.
7. Colorado State University "Expanding Your Horizons". The seminar is held in Fort Collins on a Saturday in January. SWE Members meet with 7-12 grade girls on math/science careers.
8. Liaison for student SWE groups. SWE Member checks with student groups at Colorado universities.
9. Working Women's Expo. In the past the expo has been held at the Merchandise Mart on a Friday and Saturday in June. SWE Members show slide-tape show and discuss engineering with adult women.
10. Speaker's Packet Development. Self-explanatory.
11. High School Shadow Program. Student interested in engineering spends a day with a SWE Member finding out what she does all day.
12. Slide-tape show marketing. A number of people have shown an interest in purchasing our slide-tape program. SWE Members reproduce the show and send it to interested parties. Hopefully, the Section makes some money.

SOCIETY OF WOMEN ENGINEERS
HOUSTON AREA SECTION
P.O. BOX 3461
HOUSTON, TEXAS 77253

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February 26, 1986

To: Senior High School Principals

Subject: Certificate of Merit Awards Program

Dear Principal,

The Houston Area Section of the Society of Women Engineers would like to invite your school administration to submit the names of three high school women for Certificate of Merit awards. This program was established to honor high school women having high achievement in science and mathematics and to encourage them to consider engineering as a career. Three awards are presented at each school, consisting of Certificates inscribed "For Highest Honor", "For High Honor", and "For Honor".

The Society of Women Engineers is a professional non-profit educational service organization. One of the major objectives of SWE is to inform young women, their parents and the general public of opportunities open to women engineers.

Please send us your nominations by April 15, 1986 using the attached form. Also advise us of the date of your awards ceremony or graduation exercises and whether or not you would like a SWE member to present the Certificates of Merit.

Sincerely,

Donna D Kottwitz

Donna D. Kottwitz
Pre-College Career Guidance
SWE-Houston Area

Phone: (713) 957-6400

ATTACHMENT
I-B

SOCIETY OF WOMEN ENGINEERS

HOUSTON AREA SECTION
P.O. BOX 3461
HOUSTON, TEXAS 77253

NOMINATIONS FOR CERTIFICATE OF MERIT AWARDS

(Please print or type)

OFFICIAL SCHOOL NAME ____________________

MAILING ADDRESS ____________________

PERSON SUBMITTING NAMES ____________________ Date ____________

TELEPHONE NUMBER ____________________

Deadline for Submitting Names: APRIL 15, 1986

Presentation of Award:
____ By SWE Member, if possible
____ To Be Mailed to School

Awards Assembly Date and Time ____________

FOR HIGHEST HONOR AWARD

Student's Name ____________________ Grade: Junior ___ Senior ___
Grade Point Average ____________________
Approx. Rank in Class ____________________
Science Courses Taken or Being Taken ____________________

Math Courses Taken or Being Taken ____________________

Activities and Honors ____________________

FOR HIGH HONOR AWARD

Student's Name ____________________ Grade: Junior ___ Senior ___
Grade Point Average ____________________
Approx. Rank in Class ____________________
Science Courses Taken or Being Taken ____________________

Math Courses Taken or Being Taken ____________________

Activities and Honors ____________________

FOR HONOR AWARD

Student's Name ____________________ Grade: Junior ___ Senior ___
Grade Point Average ____________________
Approx. Rank in Class ____________________
Science Courses Taken or Being Taken ____________________

Math Courses Taken or Being Taken ____________________

Activities and Honors ____________________

ATTACHMENT
I-C

ATTACHMENT
I-D

Society of Women Engineers

Houston Area

CERTIFICATE OF MERIT

for *Highest Honor*

in Science and Mathematics

PRESENTED TO

Laura Stewart

John Foster Dulles High School

IN RECOGNITION OF THREE YEARS' EXCELLENCE IN THESE COURSES

May 19 1986
DATE

Sherry L. Ramsey
SECTION PRESIDENT

Society of Women Engineers

Houston Area Section

CERTIFICATE OF ACHIEVEMENT

IN RECOGNITION OF EXCELLENCE

in Science and Mathematics

PRESENTED TO

Rhonda Harris

E.W. Cullen Middle School

June 1, 1986

DATE

Sherri L. Ramsey

SECTION CHAIRMAN

ATTACHMENT I-D(2)

SOCIETY OF WOMEN ENGINEERS
LOS ANGELES SECTION

Dear ,

Thank you for volunteering to present the Certificate of Merit to ____________________ at ______________ High School on ______________, 1984. The awards ceremony will be held at _____ o'clock at ____________________. Contact M______________ at __________ to tell them that you will be attending, or if you cannot make it for some reason. The certificate will be mailed to the school before the ceremony.

Thank you for your involvement.

Sincerely,

Carol Ann DeFeo
Home Phone: 714/675-4858
Work Phone: 213/807-4083

Suggestion for presentation:

My name is __________. I am a member of the Society of Women Engineers, which is a professional non-profit educational service organization. We inform and encourage young women to pursue engineering education and careers.

We have a Certificate of Merit award for a junior woman in high school that has shown significant achievement in the fields of math and science. It is with great pleasure that I present __________ with this years award.

ATTACHMENT
I-E

SOCIETY OF WOMEN ENGINEERS
LOS ANGELES SECTION

February 17, 1984

HIGH SCHOOL PRINCIPAL

Thank you for participating in the Society of Women Engineers Certificate of Merit Program. The Society of Women Engineers (S.W.E.) is a professional, educational, non-profit, service organization. We inform and encourage young women to pursue engineering educations and careers. Our Certificate of Merit Program recognizes junior women in high school who have shown significant achievement in the fields of math and science.

Please present on our behalf, the S.W.E. Certificate of Merit to (student name) with our sincere congratulations.

Best regards,

Carol Ann DeFeo
Certificate of Merit
  Coordinator
Career Guidance Committee
Los Angeles Section
Society of Women Engineers

CAD:mb

Encl: Certificate, brochures

ATTACHMENT
I-F

SOCIETY OF WOMEN ENGINEERS
LOS ANGELES SECTION

POST OFFICE BOX 14882
LONG BEACH, CALIFORNIA 90814

806 E. Mendocino St.
Altadena, CA 91001

October 13, 1981

Mr. Hector Navarette
1300 S. Grand
Santa Ana, CA 92705

Dear Mr. Navarette:

Enclosed is a one page description of the Society of Women Engineers for inclusion in your newsletter to Orange County Superintendents and Principals. The goals of SWE are outlined and mention is made of the availability of our members to speak at the schools. As I described to you in our telephone conversation last week, a pamphlet is being prepared to publicize SWE and its desire to assist career guidance activities. When the pamphlet is ready I will see to it that you receive a sufficient number for distribution in Orange County.

Thank you very much for your enthusiasm and assistance in our efforts. I am looking forward to the opportunity to meet you and to work with you in the future.

Very Truly Yours,

Peggy Bliss
SWE Career Guidance Chair

ATTACHMENT
I-G

THE SOCIETY OF WOMEN ENGINEERS

The Society of Women Engineers (SWE) is a nationally based, non-profit organization dedicated to encouraging women to pursue careers in the field of engineering. The specific objectives of SWE are fourfold:

(1) To inform young women, their parents, counselors, and the general public of the qualifications and achievements of women engineers and the opportunites open to them

(2) To assist women engineers in readying themselves for a return to active work after temporary retirement.

(3) To encourage women engineers to attain high levels of education and professional achievement.

(4) To serve as a center of information on women in engineering.

The Los Angeles Section of SWE has 350 members located throughout Los Angeles and Orange counties. Aerospace, Chemical, Civil, Electrical, Industrial, and Mechanical, as well as other more specialized engineering disciplines are represented. Our members are available to visit local elementary, junior high, and high schools to discuss the various aspects of engineering with either students or faculty members. Past presentations and group discussions have included such topics as job availability, educational requirements, and descriptions of an average day in an engineer's office. In addition it is possible to arrange for field trips through contacts with our members' employers.

SWE is ready and willing to assist your career guidance activities. For further information about SWE and our career guidance activities, please contact:

Ms. Peggy Bliss
SWE Career Guidance Chairman
806 E. Mendocino St., Altadena, CA 91001
(213) 796-9141

We look forward to working with you in the near future.

ATTACHMENT
I-G(2)

Deborah A. Kaylo
12400 East Imperial Hwy
B43, F3
Norwalk, Ca. 90650

November 24, 1983

To:
Mr. Bruce Laverty
Southern California Edison
P.O. Box 800
Rosemead, Ca.91770

Dear Mr. Laverty:

The Society of Women Engineers(SWE) would like to request

Eremita Miranda

to fill a speaking request on December 7 (or 13), 1983 at

Royal Oak High School
303 South Glendora
Covina, Ca. 91722

If you have any additional questions or would like Eremita to confirm the request, please contact the SWE career guidance representative. We would like to thank you for your consideration.

Sincerely,

Deborak A. Kaylo
SWE Career Guidance Chair
Los Angeles Section

SWE Career Guidance Representative:

Marie Le
12400 Imperial Hwy
B43, F6
Norwalk, Ca. 90650
Telephone: (213) 807 - 5224

ATTACHMENT
I-H

Golden Gate Section
1984-85 Speaker's Packet

SOCIETY OF WOMEN ENGINEERS

HINTS FOR CAREER GUIDANCE SPEAKERS

(excerpts from Mary Rogers 11/12/84 speech)

Before your speech, find out the following:

1. Audience Size
2. Audience Type (high school, science class, etc.)
3. Audience Sex
4. Will audience be captive (required to be there) or will they come on a voluntary basis
5. Audience Level of understanding/interest
6. What has been advetised to your audience about you and/or your speech
7. Alloted time
8. Where you will be giving the speech
9. What audio/visual equipment is available
10. What format is required, if any

Tell the school/contact person what you need for your speech and make sure they can have it ready for you at the time of your speech.

In preparing your speech:

1. Separate "must says" from "if I have times"
2. Plan your introduction and conclusion in detail
3. Make up a list of questions or additional information to have in case no one in the audience asks questions
4. Decide what would be the best time to distribute your handouts to the audience

On the day of your speech:

1. Be early
2. Get everything set up beforehand
3. Allow some time afterwards for cleaning up and for people wanting to talk you

In giving your speech:

1. Be humorous
2. Watch your time — don't run over
3. Let audience know if and when you want questions

ATTACHMENT
I-J

Golden Gate Section
1984-85 Speaker's Packet

SOCIETY OF WOMEN ENGINEERS

SUGGESTIONS FOR CAREER GUIDANCE SPEAKERS

The following topic outline has been put together to give you some ideas for presentations to high school audiences. The subjects are ones that have been found to be of interest and value to student audiences. However, they are intended as a guide only; you are free to structure your presentation in a way that is most appropriate to you and your audience.

A. Introduction
    1. Who you are (name, type of engineer/scientist, employer)
    2. What you plan to speak about

B. What is Engineering?
    1. Definition
    2. Different types/fields
    3. Types of work that engineers do
    4. Where engineers work
    5. Other characteristics of engineering jobs
        a. Types of assignments
        b. Work group size
        c. Working conditions
    6. What you do

C. How to Become an Engineer
    1. High School Preparation
    2. College Preparation
    3. Other types of preparation that would be helpful
    4. Getting an engineering job
    5. How you became an engineer

D. What are the Rewards?
    1. Compensation
    2. Gratification
    3. Job security
    4. Growth opportunities

E. Outlook for the future

F. Special problems/advantages of women and minorities

Note: Putting engineering into personal terms seems to be a popular approach that allows the students to better identify with the concept of engineering. Therefore, you are encouraged to share your personal experiences as an engineer as much as possible with respect to the above topics. If If you think you engineering experience is atypical, it might be a good idea to point this out.

11/15/84

Golden Gate Section
1984-85 Speaker's Packet

SOCIETY OF WOMEN ENGINEERS

CAREER GUIDANCE SPEAKER INFORMATION SHEET

Definitions of Engineering

A profession which...

a. ... uses mathematical tools and scientific knowledge to solve practical problems.
b. ... applies the fundamental laws of nature to create something useful.
c. ... creates what has never been seen before.
d. ... solves problems.
e. ... finds practical applications for scientific discoveries.
f. ... plans and designs new programs and systems.

Different Types/Fields

There are more than 25 different fields of engineering, with over 85 "sub-fields". (See "Brief Descriptions of Different Enginnering Fields" and the attached Occupational Outlook Handbook excerpt.)

Types of Engineering Work

a. Teaching
b. Design
c. Sales
d. Research
e. Government Regulation

Where Engineers Work

a. All types of industry
b. Colleges and universities
c. Government agencies
d. Consulting firms

Typical Preparation Required for an Engineering Degree

High School

Subject	Years
English	3
Algebra	2
Trigonometry/Analytic Geometry	1
Chemistry	1
Physics	1

Other helpful courses:
Drafting
Computer Science

ATTACHMENT
I-J(3)

College

Subject	Years
English	1
Physics	1
Calculus	1 1/2
Other Science	1
Computer Science	1
General Engineering (Breadth)	2
Engineering Depth (Major field)	2 1/2

Other Types of Preparation
- Club Membership
  - Junior Engineering Technical Society (JETS), Student Chapters of Engineering Societies
- Engineering and Science Fairs
- Job experience

Starting Salaries (1984 graduates)

Field	Average annual salary
Chemical	$27,000
Civil	$22,750
Engineering Technology	$24,950
Electrical	$27,500
Mechanical	$26,250
Petroleum	$33,000

(see excerpt from Occupational Outlook Handbook for additional salary information)

Other Disciplines which are often combined with an Engineering Degree

a. Business/Management
b. Medicine
c. Law
d. Architecture
e. Government

Alternatives to Engineering

a. Engineering Technologist (4 year degree, requires less math and science than an engineering degree)
b. Engineering Technologist (2 year degree)
c. Engineering Aide
d. Scientist (4-7+ years college; scientists concentrate on theory whereas engineers concentrate on applications)

Outlook for the Future

According to the Department of Labor, the employment of engineers is expected to increase faster than the average for all occupations through 1995. (See excerpt from Occupational Outlook Handbook for information on outlook in individual engineering fields.)

Women and engineering

- a. About one in 5 scientists are women
- b. About one in 20 engineers are women
- c. About 17% of the 1983 freshman engineering class are women

COMMON QUESTIONS ASKED OF CAREER DAY SPEAKERS

Social Responsibility

1. What is the engineer's role in:
    - a. pollution control
    - b. corporate honesty
    - c. consumer protection

Lifestyle

1. Do you have free time to pursue other interests?
2. Do people have difficulty relating to you as an engineer?
3. Are you accepted by the males in class and/or at work?
4. How has engineering had an effect on your life?
5. What is a typical day at work like?

Diversification

1. Can you do other things with an engineering degree besides engineering?
2. In what other fields might an engineering degree be helpful?
3. Can you work in an engineering related field without being an engineer?

Interaction

1. Do engineers interact with professionals in other fields such as employee relations, public relations, politics, finance, etc.? In what context?

Education

1. What colleges have good programs in engineering?
2. Where can I find information on college programs?

Golden Gate Section
1984-85 Speaker's Packet

SOCIETY OF WOMEN ENGINEERS

BRIEF DESCRIPTIONS OF DIFFERENT ENGINEERING FIELDS

Aeronautical and astronautical engineers generally concern themselves with the development of 1) air transportation and control systems that provide safe and comfortable means of transporting people and goods from place to place and 2) satellite systems that provide optimum communications and research capabilities.

Agricultural engineers are generally responsible for designing machines and systems used in producing food and fiber.

Automotive engineers design automobiles and automobile components.

Biomedical engineers use engineering principles to solve medical and health related problems.

Ceramic engineers are generally concerned with developing and producing ceramic materials with desired properties, in commercial quantities at acceptable costs.

Chemical engineers are generally concerned with 1) expanding laboratory techniques so that materials such as plastics, synthetics, and pharmaceuticals can be produced on a commercial scale, 2) developing new materials and products, or 3) designing new techniques for cleansing or processing.

Civil engineers are generally responsible for designing structures such as bridges, dams, and buildings, for optimizing transportation systems such as highways, airports, and public transit, and for developing ways to reduce or eliminate environmental problems such as air pollution, water pollution, and hazardous waste disposal.

Computer engineers generally develop computer systems and design new uses and programs for computers.

Electrical engineers are generally concerned with the research, development, design, and operation of electrical and electronic systems and their components. Electrical engineers specialize in such varied areas as communication sciences, computers, automation control systems, and energy.

Industrial engineers design, improve, and install systems composed of men, material, and equipment for the effective producion of goods or services in all types of industries.

Mechanical engineers are generally concerned with the design, manufacture, and operation of complicated machinery, special tools, and energy conversion devices (such as turbines, steam generators, and jet engines). Mechanical engineers work in such varied areas as heating and ventilation, lasers, computer aided design, thermodynamics, energy, and manufacturing.

Metallurgical engineers are generally concerned with altering the crystalline structure of metals in order to give a metal certain desired qualities such as strength, ductility, lightness, etc.

Mining engineers generally locate and develop methods for extracting minerals deposits.

Nuclear engineers generally design, construct, and operate nuclear power plants and nuclear fuel processing facilities.

Petroluem engineers are generally responsible for the development, recovery, and field processing of petroleum.

CHAPTER II

OUTREACH PROGRAMS

Outreach programs allow you to expand your career guidance program as member involvement increases in your section. These programs tend to have a higher quality of contact because they concentrate more on educating participants about career choices. Outreach programs take more of a time commitment than basic programs because they involve planning, as in seminars and workshops, or a on-going sponsorship of a club. Many of these programs can be scaled down or up depending on the size of your volunteer force.You will need to assess your volunteers to find those dedicated members who are willing to undertake organizing an outreach program. You may also consider co-sponsoring a program with another organization. Last but not least, don't overlook your member that might be willing to get involved as a long term sponsor of a school club or scout badge.

ELEMENTARY SCHOOL AGE PROGRAMS

Elementary school age children are often over looked in SWE career guidance programs. Most elementary school teachers have not studied science to the extent required of intermediate school teachers. This age child is then dependant on exposure to career choices though her home environment. Studies have shown that girls are better in math and science in elementary school but interest drops in intermediate school. You could be the only woman engineer role model a girl is exposed to.

Presentations to Elementary School Students

One SWE section learned from high school teachers that most students had settled on a career choice or direction by the 8th or 9th grade. They made the decision to concentrate on 6th graders, hoping to encourage them into the math/science fields early. In their presentation, they got Hewlett-Packard to donate calculators. The children put the calculators together while the moderators explained the work that went into designing the calculators. Then they took the calculators apart again. They ended the presentation by urging the students to begin their math and science courses as soon as possible and take as much as possible.

The Baltimore-Washington section participates in a program called Real People Day at an elementary school. Twenty minute presentations are given to three different age groupings: Kindergarten, 1st/2nd grades, and 3rd/4th grades. Their presentation includes overhead projections and covers what engineers do, how to become an engineer and what is learned in elementary school that can help you become an engineer. The children are then asked what things they would like to see engineers make in the future (robots to do their homework, cars that could fly). The session is ended with an explanation of why math and science are important to engineering.

One SWE member begins her talks to elementary school children by pulling out a $20 bill and offering to give it to any child who can name an item that didn't require engineering. Examples the children have come up with are clothing, football, video games, etc. These can always be tied to an engineer who designed the product, chose the material, designed the assembly line and manufacturing process, etc. She's never had to give away that $20 yet. This is an excellent way to get the children thinking in terms of what engineering is all about.

SWE sections have published two children's books, **Betsy and Robbie** and **Terry's Trip**. If you're addressing a small group, you may want to give away copies of these or other books. If the presentation is to a school class, you could donate a copy of the books to the classroom or school library. Information on ordering the books can be found in Chapter VI.

Girl Scouts

Involvement with Girls Scouts can range from providing speakers for troop meetings and career days to sponsoring badges. Sections have sponsored badges in Career Exploration, Computer Fun and Engineering. This is an excellent way to tap an all-female audience who are generally open to new ideas and career options. Southwest Texas section sponsored a one day workshop for Junior Girl Scouts (4th-6th grades). The workshop provided the activities required for their "Putting Things Together" badge. A copy of their program and activities is included as attachment II-A. They also came up with ideas that can be used with the younger scouts. Those ideas are included as attachment II-B. Contact your local Girl Scout Council listed in the phone book. Similar programs can be set up through Campfire Girls and Girls Clubs of America also listed in the phone book.

Young Astronauts

The Young Astronauts program was initiated in 1984 to stimulate the spirit of scientific inquiry in our Nation's youth. The primary goal of the program is to provide materials and activities that stimulate young people to improve their competence in science, mathematics and technology. SWE sections may act as a chapter sponsor and/or provide chapter leaders. Young Astronaut chapters can be located in a school, neighborhood or community. They are organized into three membership levels; Trainee=Grades 1-3, Pilot= Grades 4-6, and Commander= Grades 7-9.Information and forms for starting a chapter is included in attachment II-C.

COMETS

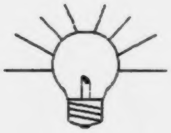
COMETS (Career Oriented Modules to Explore Topics in Science) is a program designed to supplement the science curriculum in grades 5 through 9. Over 100 science activities and information about related careers are organized into modules that can be presented by role models (SWE members) invited into the classroom. The COMETS handbook is available for loan from headquarters or from:

University of Kansas
School of Education
Department of Curriculum and Instruction
205 Bailey Hall
Lawrence, Kansas 66045
(913) 864-4435

Olympics of the Mind

OM-Olympics of the Mind program is a national organization similar to Mathcounts. The students form teams early in the school year to train and develop their problem. There are three divisions for competition based on grades: Div.I= K-5, Div.II= 6-8, Div.III= 9-12. Each year there are different problems sent to the teams. Two of the five problems for 86-87 are included, for your information, as attachments II-D and II-E. (Please note that the OM problems are copyrighted!) SWE members could be involved as coaches, sponsors or judges. The judges attend a training session to become familiar with the problems. Rocky Mountain section has done this in association with the Denver Public Schools. Further information about Olympics of the Mind can be obtained from:

OM Association, Inc.
P.O. Box 27
Glassboro, NJ 08028



INTERMEDIATE SCHOOL AGE PROGRAMS

It is in junior and senior high school that students have the most options in choosing a curriculum that will support or hinder their future career path. Interesting the students in engineering as a career option will help them make supporting curriculum choices as they progress through school.

Career Days and Career Fairs

Participation in junior and senior high career day programs is an excellent way to gain visibility for engineering as a profession and for women in the engineering field. Some SWE sections have designed and made a free-standing display for these particular occasions. A sketch of one of these displays is shown in attachment II-F. The booth is staffed by SWE members eager to answer questions. It includes photographs of women in engineering roles and has literature holders attached to hold handouts that might be useful to students in their career search. This booth can be used at a variety of functions and gives high visibility with a professional look. It is a good idea to have available handouts, such as**High School Preparation For A Bachelor of Science in Engineering** and **What Are You Doing For The Rest of Your Life?**.

Girl Scouts

The involvement with intermediate scouts can be along the same lines as elementary scouts, speakers and badges, but at a more technical level. There are more opportunities for career oriented programs at this age. The Santa Clara Valley section hosted a program called "Tinker...Toys...Technology", (T^3), During the school year local troop activities included hands-on career explorations in science and technology. During the summer, the program was condensed into a two week period for 70 high school Girl Scouts selected from across the United States. The participants in both programs sampled a variety of technologies through a) hands-on workshops, games, classes, and other mind stretchers, b) tours of facilities and museums that will illustrate scientific principles being put to use, c) meeting role models, and d) discovering the fascination of technology. A section could adopt parts of the T^3 for their own use. The activities for different subject areas are in attachment II-G.

Explorer Scouts

Explorer Scouts is a division of the Boy Scouts of America and is open to boys and girls between the ages of 13 and 20. Your SWE section could sponsor an Explorer Scout post in Engineering. Sponsorship entails organizing engineering related meetings and tours of local industries. Contact should be made through your local Boy Scout Council.

Mathcounts

Mathcounts is a program developed to elevate the level of math achievement in junior high students. It consists of a coaching program, usually after school, that lasts from Sept/Nov. through Dec. Then the students compete in a series of competitions , In-school (Jan.), Chapter (Feb/Mar), State (Apr) and finally National (May). Regardless of whether the students succeed in the competitions, they have benefited from the months of coaching. All the coaching materials are supplied in the Mathcounts Handbook. The handbook and names of local coordinators are available from:

NSPE information Center
2029 K Street, N.W.
Washington, DC 20006
(202) 463-2310

Olympics of the Mind

Information for Olympics of the Mind is given in the Elementary School section and in attachments II-D and II-E.

Young Astronauts

Information for Young Astronauts chapters is given in the Elementary School section.

JETS

JETS- Junior Engineering Technical Society is a nationwide organization of clubs for junior and senior high school students. JETS clubs hold TEAMS (Tests of Engineering Aptitude, Math and Science) competitions, Engineering Design contests and NEAS (National Engineering Aptitude Search. SWE members can become involved with JETS as an advisor, sponsor or by helping with the competitions. Information on JETS is included as attachment II-H.

A Day In The Life Of An Engineer

This program was designed by the New Orleans section to simulate an engineer's typical day presented in a format to which high school students can relate. Because engineers spend much of their time solving problems, the goal of the program is for the participants to solve an engineering problem. the day begins with introductions and a short slide show presentation on "What Engineers Do". This highlights the basic fields of engineering and what engineers must study in school. In order to prepare the students for the day's problem, a short introduction to Statics follows the slide show. Students are introduced to the concepts of load, bending and tension on a very visual/physical level.

At this point, the problem is presented by two "architects" who are renovating a zoo. They are subcontracting some work and desire a design and cost estimate for a bridge for the elephants. Students are then broken up into small groups of 3 to 5, each group with a leader familiar with the problem (a practicing engineer or senior engineering student). Students are given problem booklets full of relevant and irrelevant facts. Interruptions during the day and changes in the problem help to make it more realistic. Students are required to make a few phone calls to obtain information from SWE members who serve as mock contractors.

At the end of the day, each group presents their design and cost estimate. The students are asked to fill out evaluations of the day and Certificates of Achievement are presented to the participants.

Information on planning a Day in the Life can be found in attachment II-J

Expanding Your Horizons

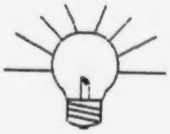
Expanding Your Horizons is a one day conference designed to encourage 6th through 12th grade girls to continue math and science studies. The conference provides women role models to conduct hands-on workshops in science, engineering and math/computer subjects as well as career exploration speakers. The program seems to work best when held on a college campus where numerous facilities can be used, and laboratories and student/faculty talent can be tapped. Although the conference takes lots of planning to recruit workshop leaders, contact schools and conduct the conference, it is a great project for networking organizations to share. The best way to start is to set a limit to the number of participants for your first conference and expand as you become established and more experienced. Santa Clara Valley and Golden Gate sections have been involved in the San Jose State University Expanding Your Horizons conference since 1979. Their conference has evolved to consist mostly of hand-on workshops based on evaluations from the students. A sample program and workshop descriptions are included as attachment II-K. Information and conference materials are available from:

Math/Science Network
c/o Mills College
5000 MacArthur Blvd.
Oakland, CA 94613
(415) 430-2230

Iowa State University puts on a nearly identical conference called The Road Less Traveled. A copy of their program is shown in attachment II-L.

Engineers Week

Engineers Week is a good time to organize a Science, Engineering and Technology Workshop. The Philadelphia SWE section has this type of program on a local college campus. Booths and exhibits are set up by industries and are open for viewing in the morning. SWE has one of the booths, complete with a slide show depicting women engineers on the job. Then they have a panel discussion and film in the afternoon.



EDUCATOR/COUNSELOR WORKSHOPS

While we assume we live in modern times, it is still shocking at best to discover the number of high school counselors who are not informed about the opportunities in engineering. Old stereotypes die hard and counselors/teachers may subconsciously direct girls away from math and science classes. Exposure and experience are the best tools for putting old stereotypes to rest.

Guidance Counselor Workshops

The Boston SWE section has put together a program aimed at Junior and high school counselors. The workshop runs about three hours. It starts with an overview of statistics and history on women in engineering followed by a career guidance film. The next part deals with specific engineering applications- a Heathkit robot, the Boston Aquarium and the space shuttle program. Finally, the SWE members tell the counselors what students need to study in order to enter engineering and where they can obtain further information. The Denver SWE section has a similar workshop which highlights the careers and personal lives of six local women engineers. This is followed by a discussion of requirements for entering an engineering curriculum and a question and answer period.

A Day in the Engineering Park

Florida section has developed a program for elementary and middle school counselors and teachers. The one day workshop includes a visit to a high-tech industry with women engineers as guides; small group meetings with engineering college faculty in their labs; talks on why preparations for entry into engineering college should begin early; and interaction with women engineers willing to serve as resource persons. At the conclusion of the day the participants are challenged with a competition. Cash prizes are offered for the best guidance modules developed by these counselors and teachers for grades 5-8 to promote awareness of career opportunities available for women and minorities in the field of engineering.

EQUALS

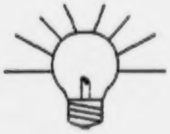
EQUALS is a program developed by the Lawrence Hall of Science , University of California, Berkeley. It is a teacher education program designed to provide methods and materials to assist teachers to increase the numbers of female and minority students participating in math and computer education. The EQUALS Handbook and information is available from:

EQUALS
Lawrence Hall of Science
University of California
Berkeley, CA 94720
(415) 642-1823

GESA-Gender Expectation Student Achievement

The purpose of GESA is to help educators to look at the impact of gender biases on teaching and to discover what happens when those biases are reduced in classrooms. Although overt gender stereotyping is less prevalent than twenty years ago, gender bias persists in subtle forms and suppresses the abilities and motivation of both boys and girls. GESA workshops examine five major areas of gender disparity: instructional contact, grouping, classroom control, enhancing self esteem, and evaluation of student performance. Further information is available from:

Los Angeles County Office of Education
Division of Project Funding and Management
Room246
9300 East Imperial Highway
Downey, CA 90242-2890
(213) 922-6910

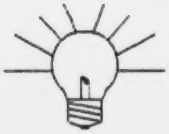


RE-ENTRY / ADULT

There are many reasons why women are reentering the job market. Some have decided to change careers to something more challenging or rewarding. Some find it necessary for economic reasons to enter or reenter the work force. There are single mothers who are the sole support of their family and mothers whose children have grown. Engineering and engineering related fields are attractive because of the high pay they command. Reentry workshops help educate these women to the opportunities open to them in engineering and the effort they need to put in to get there.

Retooling Strategies for the Future

The Wisconsin section helped put together a conference, first held at the University of Wisconsin in 1983, called Retooling Strategies for the Future: Scientific and Technical Careers. This conference was aimed at adult women considering a career change or entering or re-entering the job market. An analysis of the participants in their first conference showed that the ages ranged from early 20's to late 70's with the majority being 30-35. They represented all different marital status and about 50% had a bachelor's degree. One feature offered at the re-entry workshops that is not usually offered at other outreach programs is child care during the program. This is important since many of the adults you are trying to reach are mothers and many are single mothers. A sample program and other planning information from the Retooling conference is shown in attachment II-M.



CHAPTER II

ATTACHMENTS

SWE GIRLSCOUT WORKSHOP

ARRIVAL	9:30-10:00 AM	NAME TAGS, COMPUTER GAMES, LEGOS , PUZZLES,GIRL SCOUT DISPLAY, FIND AN ENGINEER
WELCOME	10:00-10:30	INTRODUCTION /EXPLAIN GROUPS CAROLINE/BETH HOUSTON SWE VIDEO TAPE
GROUPS	10:30-11:30	BEAM STRENGTH TOWER BUILDING SCALE DRAWING BLUEPRINTS
CONVENE	11:30-12:00	WATER CONSERVATION
LUNCH	12:00-12:45	LUNCH OUTSIDE, IF POSSIBLE FIND AN ENGINEER
CONVENE	12:45-1:15	SEATBELT DEMO
GROUPS	1:15-2:15	BEAM STRENGTH TOWER BUILDING SCALE DRAWING BLUEPRINTS
CONVENE/ GROUPS	2:15-2:30	TREASURE HUNT/MAP READING
CONVENE	2:30-3:00	PHYSICS CIRCUS
CLOSING	3:00	DO YOU WANT TO BE AN ENGINEER?

ATTACHMENT
II-A

Name Tags & Folders - Name tags were needed for each attending Girl Scout, volunteer and Girl Scout leader. Folders were provided in five different colors. The colors were used to determine grouping of the girls for the activities. Each folder contained:

- a sharpened pencil
- plain paper
- graph paper
- Find an Engineer accounting sheets
- a workshop schedule.

Find an Engineer - This is one of the requirements for the **Putting Things Together Badge**. Name tags for SWE volunteers were needed to help the Girl Scouts find each type of engineer on their **Find an Engineer** accounting sheet.

Ex-Girl Scout Display - Several members donated their Girl Scout memorabilia (uniforms, pins, pictures) to be displayed on a ex-Girls Scout Display.

Types of Engineers Display - Several members wrote a brief description of several types of engineers (see next page) and provided graphic pictures of women engineers in action to create a picture display of the different types of engineering disciplines. This also fulfilled the requirement of understanding what an engineer does and types of engineers.

Please Touch Exhibit - This display had several items related to the several types of engineering including

- highway safety equipment
- highway construction materials
- computer printouts
- personal protective equipment used at hazardous waste cleanup sites; such as air packs, boots, gloves, and impermeable suits.
- computer graphics on the Macintosh™
- electronics

Video Tape of Women Engineers - A video tape from the Houston SWE Chapter showed women in several types of engineering disciplines from an astronaut to a chemical engineer.

Scale Drawing - This was also a requirement for the **Putting Things Together Badge**. A 6" x 4" x 2" block with a 1" hole in the middle was used. The following describes this activity.

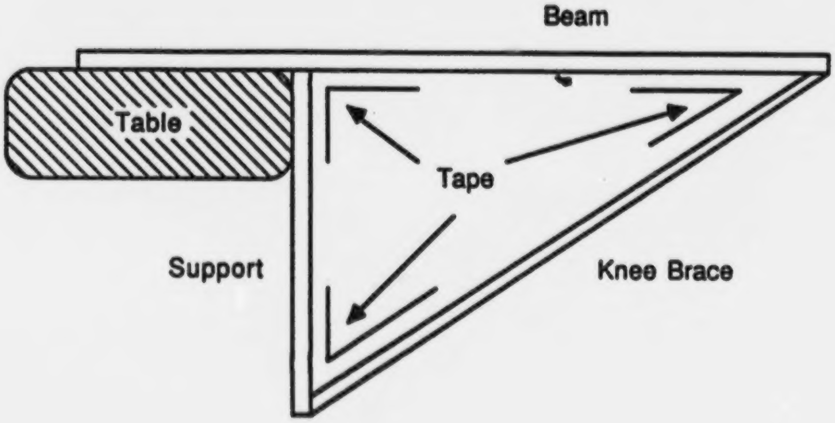
SCALE DRAWING

1. Measure the block in front of you. Use a ruler.
2. Draw a front view, a side view, and an isometric view of your block onto a piece of graph paper.
3. Scale your drawings.
4. Write in the lengths and put your name on your paper.

BRACED BEAM EXPERIMENT

Make a simple beam support (see instructions below). Look around your home and community to find at least two examples of beam supports at work.

To make a beam support:
a. Take a piece of cardboard about 30 cm (12 in.) long and 2.5 cm (1 in.) wide.
b. Fasten the cardboard strip down on a table by putting a heavy book on it, allowing 20 cm (8 in.) of cardboard to stick out over the edge of the table.
c. Put pennies, one on top of another, near the end of the cardboard farthest from the edge of the table until no more pennies will stay on. Write down the number of pennies.
d. Now cut the two strips of cardboard, one 25 cm (10 in.) long and 2.5 cm (1 in.) wide and the other 15 cm (6 in.) long and 2.5 (1 in.) wide to make the beam support.
e. Tape these two strips of cardboard to the piece of cardboard sticking out over the edge of the table to support the beam. Be sure the 15 cm (6 in.) piece is securely taped to the 30 cm (12 in.) piece of cardboard at the point where they meet at the edge of the table.
f. Now pile up the pennies near the edge of the beam as you did before. How many pennies will it hold this time?



Blueprints - Some of the members provided blueprints to show the Girl Scouts an engineering example of a scale drawing.

Water Conservation - The City of Austin provides a free demonstration on water conservation. They were responsible for the materials associated with the demonstration.

Lunch - Although each Girl Scout provided her own lunch, SWE provided the lemonade, cups, ice, and cookies.

Seat belt demonstration - Austin Travis Country Health Department funds a free safety belt demonstration. The demonstration includes a 15-minute movie on the use of seat belts and folders on seat belt information.

Treasure Hunt/Map Reading - A simple map of the surrounding area around the recreation area was designed and several sets different colored letters that spelled the word ENGINEER were cut out of construction paper. The goal was to have each group of girls find all the letters to the word, ENGINEER, using the map to find each letter.

Physics Circus - The University of Texas Physics Department demonstrated a Physics Circus. They were responsible for bringing all the materials for the demonstration.

Close of Workshop - Prizes for the tower building contest included calculators, compasses, templates, and mechanical pencils. A **Do You Want To Be an Engineer** questionnaire was to be given out to each attending Girl Scout. The next two pages display the questionnaire that was to be given out.

Tower Building Display - This activity is described on the next two pages. This experiment was taken from the SPACES (Solving Problems of Access to Careers in Engineering and Sciences) book from Dale Seymore Publications. Recipe cards were used in place of paper.

Skills
- *Brainstorming*
- *Cooperating*

Time
- *1 class period*

Participants
- *Groups of 2–4 students*

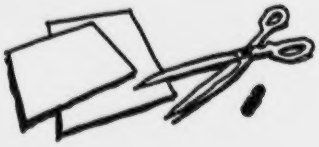
Materials
- *8½" × 11" paper*
- *Paper clips*
- *Scissors*
- *Masking tape*
- *Marking pen*

Students explore creative problem solving by using non-traditional materials to build a structure. The challenge is to build the highest tower using these materials.

Preparation:

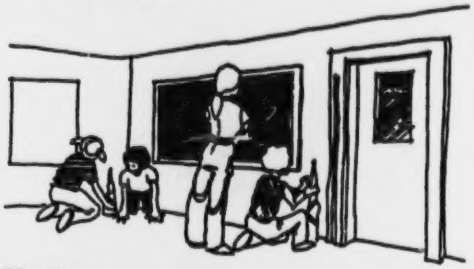
1) Divide the materials into sets consisting of:

2 pieces of paper
10 paper clips
1 pair of scissors



You will need a set for each group of students.

2) Apply a strip of masking tape to a wall or door jamb starting at the floor and extending up about 5 feet. This will be used to compare the heights of the towers.



Directions:

Give these directions to the students:
- Only the materials provided may be used in building your tower.
- The towers must be free-standing. They may not lean against the wall or be held up.
- Towers must be brought to the tape on the wall for measuring. This means they will have to be transportable or easy to rebuild at the measuring site.

Divide the students into groups and assign a working area for each group of students. Distribute sets of materials and let the students start building.

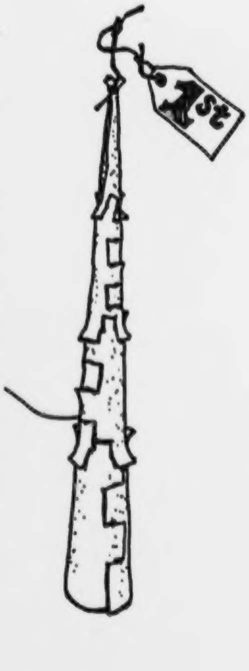
Some questions may arise, such as, "Can we tear the paper?" or "Can the scissors be part of the structure?" The best response is to repeat the beginning instructions, without giving further information. The intent is to minimize instructions so students will be encouraged to invent innovative ways to build the tower.

As pairs of students finish their structures, have them bring the towers to the measuring site. Write the initials or names of students beside their tower's mark on the tape.

When all towers have been measured, announce the winners. You may want to discuss with the class some of the successful or not-so-successful strategies used to hold the towers together and upright.

Extensions:

Allow time for experimentation. Give the students 15 minutes to experiment with scratch paper before they actually begin building their tower.



ATTACHMENT
II-A4

IDEAS FOR DAISY AND BROWNIE SCOUTS ACTIVITIES
generated by Southwest Texas Section

For Daisy Scouts (5 yr old):

- Lay out a game court using ruler and metal tape, dodge ball.
- Discuss how measuring makes the court more uniform; easier to make circles or straight lines.
- Discuss origin of foot measure.
- Measure first thumb joint, foot, finger span, tip of finger to elbow length of stride.

For Brownie Scouts (1-3 grade):

- Use above as lead in.
- Draw a building, car, airplane or chair (front, side, view from above)
- Use two kinds of charts to display rainfall data form the weather bureau; when is the wettest month, when is the driest month?
- Design a rain gauge; what is needed; why?
- Visit the weather office at airport; discuss the gauges that measure temperature, wind, rain, time.

For Brownie or Daisy Scouts:

The goal of these activities is to encourage the girls to look at the world around them, undertake activities to discover how it works, and to begin to study and solve simple problems.

- Discuss some water pollution and conservation problems in your community. What could you do to conserve water at home and at school? Obtain a Water Saving Kit and install it in your home.
- Draw a picture of what you think life will be like in the 21st century. Describe the changes that you think will occur in transportation, communication, and growing food. Show your pictures to your troop and explain why you think these changes will occur.
- Use a battery and light bulb to construct a flash light. What is the source of energy for the light? What did you use for a switch? Why do you think it works?
- Make a map of your room. Use a ruler to measure the length of the walls, windows, your bed and other furniture. Use a scale of one inch equals one foot in your map. (Optional: Make a map of your dream room.)

ATTACHMENT
II-B

CHAPTER STARTER KIT

YOUNG ASTRONAUT PROGRAM

SUGGESTED YOUNG ASTRONAUT CHAPTER CHECKLIST:

To assist you in preparing and running your Young Astronaut Chapter, we have created the following checklist for your use.

COUNTDOWN:

- Read all materials supplied in this information kit.
- Discuss your Young Astronaut Chapter plans and ideas with interested faculty, staff and administrators at your "Launch Base" school to gain their interest and support.
- If possible, select or recruit at least two Advisors and a Sponsor to help you with Chapter activities on a regular basis.
- Complete and return Chapter registration and information form and check, money order or purchase order for $20 payable to the Young Astronaut Council, 1015 Fifteenth Street, N.W.; Suite 905, Washington, D.C. 20005. Complete the Satellite Member application and pledge for each student if there is no possibility for a local Chapter.
- Hold a meeting that includes your Sponsor or potential Sponsor and Chapter Advisors to outline your Young Astronaut Chapter plans and goals.

LAUNCH:

- When you receive your "Launch Kit" (membership cards, pledge forms, etc.), select a time and location for your first and subsequent meetings.
- Post notices of your first Young Astronaut Chapter meeting, perhaps in your host-school teachers' lounge, as well as anywhere in the school where potential student-members and faculty will see them.
- Request the meeting announcement to be read before all grades/classes that have potential Young Astronauts.
- Mail or have students hand-deliver a letter to parents which includes a discussion of Young Astronaut goals and future activities. Also include permission slips (if required) for parents to sign if the meeting is either after school or off school grounds.
- Following the suggested "Things to Do at the First Meeting" (included in the "Launch Kit"), outline a quick-paced agenda for your first meeting with the other Chapter Advisors.
- Talk to any interested parents both before and after the first meeting. Try to involve them in supporting the Chapter and its activities.

Be sure to add to this list any special considerations or extra steps that may be useful in gaining Chapter sponsorship or school support, as well as in making the first and subsequent meetings of your Chapter a success.

YOUNG ASTRONAUT CHAPTER "LAUNCH KIT":

You will receive the Chapter "Launch Kit" after the Young Astronaut Council receives the $20 annual registratio fee and the Chapter registration form.

CHAPTER "LAUNCH KIT" INCLUDES:

- Curriculum/activities poster
- 30 membership cards
- 30 membership/pledge certificates
- A Chapter certificate
- An Educator/Chapter Leader and Advisors Handbook, including:
    - Information about setting up student mentoring programs
    - Information and instructions about the "electronic mailbox" telecommunications system
- Information about the next shuttle launch(es)
- Method of applying for Model Chapter Status
- Sample letter to parents
- List of suggested activities for the first meeting
- Suggested guidelines for creation of "promotional" activities and sample activities
- Ordering information for additional materials
- A receipt of payment

YOUNG ASTRONAUT PROGRAM™
United States of America

CHAPTER APPLICATION

PLEASE PRINT/TYPE ANSWERS TO RIGHT →

DO NOT WRITE IN THIS SPACE

1. CHAPTER OR SCHOOL NAME ▶ 1. ____________________

2. NAME OF CHAPTER LEADER ▶ 2. ____________________

3. MAILING ADDRESS ▶ 3. ____________________

____

CITY ____________ STATE ______ ZIP ______

4. CHAPTER TELEPHONE NUMBER ▶ 4. (   ) ____________________

5. ADDRESS OF CHAPTER LEADER (IF DIFFERENT THAN ABOVE) ▶ 5. ____________________

____

____

CITY ____________ STATE ______ ZIP ______

6. TELEPHONE NUMBER OF CHAPTER LEADER (IF DIFFERENT THAN ABOVE) ▶ 6. (   ) ____________________

7. GRADE LEVEL (CHECK ONE) ▶ 7. ☐ 1-3 ☐ 4-6 ☐ 7-9

8. SPONSOR'S NAME (IF ANY) ▶ 8. ____________________

9. SPONSOR'S ADDRESS ▶ 9. ____________________

____

____

CITY ____________ STATE ______ ZIP ______

10. SPONSOR'S TELEPHONE NUMBER ▶ 10. (   ) ____________________

As Leaders of this Chapter, we will maintain a spirit of cooperation, encourage the joy of learning and endorse the goals of the Young Astronaut Program.

CHAPTER LEADERS (SIGNATURES) ____________________ DATE: ____________

____________________ DATE: ____________

CHAPTER ADVISORS (SIGNATURES) ____________________ DATE: ____________

____________________ DATE: ____________

The users of/or subscribers to educational programs and materials sponsored or supported by the Young Astronaut Council agree not to hold the Council responsible for any injury resulting from or proximately caused by the person's participation in any activity.

To form a Chapter, please submit this application and the $20.00 annual registration fee (check, money order or purchase order) payable to the Young Astronaut Council.

SEND TO: YOUNG ASTRONAUT COUNCIL
1015 Fifteenth Street, N.W.
Suite 905
Washington, D.C. 20005

ATTACHMENT
II-C2

Problem No. 1

OMER TO THE RESCUE

Division I, Grades K-5 • Division II, Grades 6-8 • Division III, Grades 9-12

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All questions regarding problem clarifications should be sent on the appropriate form with a self-addressed, stamped envelope to

OM ASSOCIATION, INC. P.O. Box 27, Glassboro, NJ 08028 USA

ATTACHMENT
II-D

Problem No. 1: "OMER TO THE RESCUE"

Divisions I, II, and III

A. Introduction

We have numerous comic book, comic strip, radio, and television heroes and heroines entertaining us while they accomplish fantastic feats and work for justice. Some, such as Wonder Woman and Superman, work alone while other heroes have partners or "Sidekicks." Batman and Robin, the Lone Ranger and Tonto, Robin Hood and Little John are a few who work together. This is your opportunity to perform heroic feats as you create your "OMER" and his/her "sidekick."

B. The Problem

Your team is to create a minimum of three live characters. These must be OMER, Sidekick, and a distressed person. Your solution to the problem is to be developed around this scenario: OMER and Sidekick are to stand in the Neighborhood (See Figure A). Each travels with a suitcase. They open their suitcases, one or both of which contains the parts to a vehicle. The vehicle will then be assembled. The person in distress may *not* assist in the vehicle's assembly. OMER and/or Sidekick will then leave the Neighborhood on the vehicle and proceed to relieve a person in distress, stop a crime, rescue a lost kitten and do two good deeds of the team's choosing. The five tasks may be completed in any order. Then the vehicle will be disassembled and replaced in the suitcase(s). The person relieved from distress may assist in the disassembling of the vehicle.

The Spirit of the Problem is to create a scenario which includes OMER, Sidekick, and a distressed person and to design and to construct a vehicle which will fit into one or two suitcases. The team is to assemble its vehicle, drive it, turn it, stop it, and perform the specified tasks, then disassemble the vehicle.

C. Limitations (General limitations are listed in the *OM Program Handbook.)*

1. The time limit for the competition, including set-up, style, and performance, is ten minutes.
2. Except for items exempt from cost in the *OM Program Handbook*, the cost limit is $75.00 (US), including the cost of the vehicle and its propulsion system. The cost limit does not include new or used suitcases, or suitcases built by the team. Additional points will be given for less money spent. Under $60 = +5 points; under $45 = +10 points; under $30 = +15 points.
3. The entire vehicle must be contained in one or two closed suticases. Each suitcase must have outside dimensions not exceeding 23" x 31" x 10" and may be made of any material.
4. The vehicle must be totally enclosed in the suitcase(s) when the signal to begin is given. Then it must be assembled in the Neighborhood, complete the tasks, return to the Neighborhood, be disassembled and placed back into the suitcase(s).
5. The suitcase(s) may be part of the vehicle. However, they must either be suitcases or resemble pieces of luggage. Some suitcases have built-in wheels. These wheels may not be used as the vehicle's wheels.
6. OMER and/or Sidekick must ride in or on the vehicle and may not leave the vehicle except in the Neighborhood. If OMER or Sidekick touches the floor outside the Neighborhood, it is a penalty. OMER and Sidekick may return to the Neighborhood as often as they wish.
7. Only one vehicle may be made. Only OMER and/or Sidekick and the kitten may ride the vehicle. OMER and Sidekick must complete the tasks.
8. Division I participants have complete freedom in moving the vehicle. It may be pushed, pulled, or moved by any means.
9. Division II participants may use any power source except moving the wheels directly by hand or pushing or pulling the vehicle by hand. Vehicles may not be connected to anything stationary except an electrical supply.
10. Division III participants may not use human energy directly as a power source, i.e. pedal a bike, use ski poles, etc. Human energy may be used as a power source provided it is stored, i.e. pumping a jack, putting tension on a spring. Human energy may also be used to release and/or control an independent power source, i.e. electrical motor, battery, etc. Once the power source is released, no one may contribute to the vehicle's propulsion. The power source may be reset in the Neighborhood and in the Park.
11. For all divisions, the vehicle braking and steering systems may be hand operated.
12. Four team members, except the person in distress, may help assemble the vehicle. All five team members may help to disassemble the vehicle.
13. The vehicle must be assembled and disassembled in the Neighborhood.
14. The team's interpretation and configuration of the kitten and the nature of the distressed person's distress are of the team's choosing. The kitten may be portrayed by one of the five team members but no other live animals may be used.

15. The distressed person and the kitten must be in position before their reliefs/rescues take place. Once in position, the distressed person and the kitten must remain in their areas until relieved or rescued. After the distressed person is relieved, he/she may leave the designated area and move anywhere. When the kitten is rescued, it must be kept on the vehicle and must be returned with OMER and/or Sidekick to the Neighborhood. This may be done at any time during the vehicle's run. The remaining two team members may move in or out-of-bounds without penalty.
16. The floor contact points (usually wheels) of the vehicle must remain in bounds.
17. All devices or apparatus (i.e. tongs, broom, etc.) used to perform the tasks must be contained in the suitcases at the start of the competition. This does not include stationary props.
18. The devices or apparatus used to perform the tasks do not have to be returned to the Neighborhood, but until they are used must be carried on or attached to the vehicle or carried by OMER and/or Sidekick.
19. During the performance of the tasks, OMER's and Sidekick's body parts and devices used to perform the tasks may extend across the boundary lines without penalty, but the body parts may not touch the floor.
20. Before time begins, the team must present the judges with an 8 1/2" x 11" sheet of paper (description sheet) containing a brief description of the crime, the two good deeds, the nature of the distress, and the identification of the characters.
21. A team member may portray only one character. OMER need not be the OM raccoon mascot.
22. Tools for vehicle assembly do not have to be contained in the suitcase(s).
23. The names "OMER" and "Sidekick" may be changed.

D. The Competition

1. The team, the suitcases, and props, etc. will be in the staging area. When time begins it will be the team's responsibility to complete the tasks.
2. OMER and Sidekick will go to the Neighborhood with their suitcases.
3. The vehicle will be assembled in the Neighborhood.
4. When the tasks are completed, the vehicle will be returned to the Neighborhood and will be disassembled.
5. If time runs out, the team must stop.

E. Site & Set Up

The vehicle should be maneuverable within the confines of the site. In some situations the site may be located near walls.

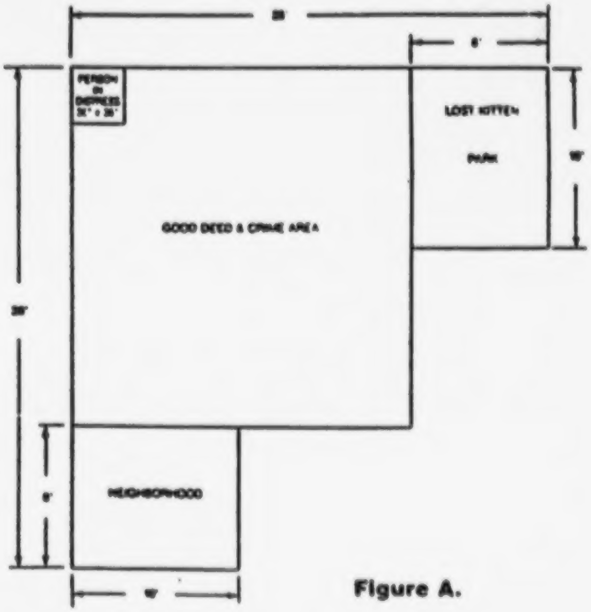

Figure A.

F. Scoring

1.	The creativity of the vehicle	1 to 50 points
2.	The creativity of the characters and the scenario	1 to 25 points
3.	The appearance of the vehicle	1 to 15 points
4.	The creativity of the 1st good deed (only scored if successfully completed)	1 to 15 points
5.	The creativity of the 2nd good deed (only scored if successfully completed)	1 to 15 points
6.	The creativity of the distress and the relief of the distressed person	1 to 15 points
7.	The creativity of OMER or Sidekick stopping a crime	1 to 15 points
8.	The creativity of rescuing the lost kitten	1 to 10 points
9.	Returning the kitten to the Neighborhood	5 points

10. Under the cost limit: lower cost = higher score
   Under $60 .... +5 points
   Under $45 .... +10 points
   Under $30 .... +15 points
11. The vehicle replaced into the suitcase(s) .... 20 points

Maximum Possible: 200 points

Penalties

1. Any part(s) of the vehicle or task apparatus not inside the suitcase(s) at the start .... −5 to −50 points
2. OMER or Sidekick leaves the vehicle or touches the floor outside of the Neighborhood (each offense) .... −10 points
3. Floor contact points of vehicle go out-of-bounds (each offense) .... −10 points
4. Violation of the Spirit of the Problem (each offense) .... −5 to −100 points
5. Outside assistance (each offense) .... −5 to −100 points
6. Unsportsmanlike conduct (each offense) .... −5 to −25 points
7. Incorrect or missing membership sign .... −1 to −15 points
8. Division III power source reset while outside the Neighborhood or Park (each offense) .... −15 points
9. Each suitcase which exceeds any dimension by 1/2" or less .... −25 points
10. Each suitcase which exceeds any dimension by more than 1/2" .... −100 points
11. Damage to floor or premises .... −5 to −100 points
12. Distressed person, before being relieved, assists in assembling the vehicle or comes in contact with the floor outside the distressed person's area .... −25 points
13. Any vehicular parts outside the neighborhood during assembly or disassembly (each offense −10 points) .... maximum = −20 points
14. Kitten touches floor between Park and Neighborhood (each offense) .... −10 points
15. Over cost limit .... −5 to −50 points

G. Style (Elaboration of the Problem Solution)
Use Style Form from the *OM Program Handbook*

1. The Appearance of OMER .... 1–10 points
2. The Appearance of Sidekick .... 1–10 points
3. Use of Special Effects .... 1–10 points
4. Free Choice .... 1–10 points
5. Overall Effect .... 1–10 points

Maximum Possible: 50 points

H. Tournament Director Will Provide:

1. Taped course on floor area (preferably uncarpeted)
2. A minimum of two judges
3. A timing device
4. Scoresheets and pencils
5. An electrical outlet and an extension cord which will accept a three prong plug.
6. An accurate yardstick
7. A box with inside dimensions of 23" x 31" x 10" to measure suitcases (suggested)

I. Team Must Provide: (In addition to items in the *OM Program Handbook*)

Description sheet (See C. #20.)

*Implications for Further Study

1. Do you think that comic book heroes have a positive or negative influence on our youth? Why?
2. Name as many types of vehicles as you can that move one or more persons. Discuss your ideas with others in a group. What was your total number? Which were the most unusual?
3. What tools are made to do multiple tasks?
4. What tools are made to do specific tasks?

Problem by C. Samuel Micklus, Ed. D.

Problem No. 2

CHAIN REACTION

Division II, Grades 6-8 • Division III, Grades 9-12

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questions regarding problem clarifications should be sent on the appropriate form with a self-addressed, stamped envelope to:

OM ASSOCIATION, INC. P.O. Box 27, Glassboro, NJ 08028 USA

ATTACHMENT
II-E

Problem No. 2: "CHAIN REACTION"
Divisions II & III

A. Introduction

NOTE: In order to facilitate international competition, the Chain Reaction problem has been designated as a nonlinguistic problem. No written or spoken language other than the membership sign and required forms will be permitted. In competition, the spontaneous problem solutions will neither permit nor require written or spoken language that could not be assisted by an interpreter. The use of an interpreter will not affect the team's score. In addition, mandatory style categories have been listed. Teams may select three categories from the first seven on the list and must include #4. The Diagram and #5. Overall Effect. Please note that team members may speak to each other during the long-term competition; however, no language of a performance nature is permitted to be written or spoken to or for anyone else during competition. Team members may speak to the judges in order to facilitate competition. It will be the judges' decision as to whether sounds made in performance constitute language.

We have heard of the domino theory. When one falls, it knocks over another and continues until all have been knocked over or have fallen. This theory may also be used to describe other happenings as well. For example, one bank may lower its lending rate and others follow its lead. Sometimes we call these trend-setters. This chain reaction is the basis for this OM problem. Your team is to create a "chain reaction" which will also accomplish a number of specific tasks.

B. The Problem

The problem is to use standard mousetraps (approximately 2" x 4") to cause a chain reaction. The first mousetrap will be set off by a team member. When the first mousetrap is set off, it will then cause another and then another until fifty mousetraps have been released. During the chain reaction, the energy from a single mousetrap's spring will trigger other mousetraps which will then achieve specific tasks such as breaking a balloon, ringing a bell, etc. (The tasks are listed under C. Limitations #4.) The team will also estimate the competition time needed from setting off the first mousetrap until the last task, the ringing of a bell, takes place.

THE SPIRIT OF THE PROBLEM is to release the energy stored in a standard mousetrap spring to set off other mousetraps. During the chain reaction, mousetrap energy will be used to accomplish the specific tasks.

C. The Limitations (General limitations are listed in the *OM Program Handbook*.)

1. Fifty mousetraps must be used in the Chain Reaction competition. In the event of a systems breakdown, mousetraps may be replaced. (See D. The Competition #5 and F. Scoring, penalty #1.)
2. Each trap must stay in its original form. However, the traps may be painted and items may be added to them.
3. Since the staples on the traps may weaken after being triggered 10-12 times, each trap must be reinforced with glue and/or wire to prevent pieces breaking loose and potentially injuring someone. This may be done by putting a drop of epoxy or some strong glue where the staples touch the wood. Alternatives would be to drill two small holes and place a wire over the rod which supports the spring or use an additional heavy staple(s).
4. The following tasks are to be completed by mousetrap energy. The *tasks* are to:
    - (1) Set off 2 mousetraps at once
    - (2) Start a battery-operated vehicle which will tow a balloon (8" diameter maximum) (See Figure A.)
    - (3) Start a mousemobile (The mousemobile will be propelled solely by the energy produced by a single mousetrap.)
    - (4) Have the mousemobile break the balloon towed by the battery-operated vehicle which is in motion
    - (5) Break one stationary balloon
    - (6) Start music playing
    - (7) Create and complete a task, free choice
    - (8) Create and complete a task, free choice
    - (9) Raise a flag
    - (10) Signal the crowd to cheer
    - (11) Ring a bell

5. The tasks may be completed in any order except for the ringing of the bell which must be last and will signal the end of the long-term competition. No tasks may be completed for score after the bell rings; however, style may continue until time expires.
6. The setting off of the first trap must take place while a team member is in the "start" position. (See Figure A.) The individual setting off the trap may not come within 6" of the trap. The trap being set off must be within the Chain Reaction course.
7. The top of the flag (task #9) must be raised a minimum of 6 inches from its original position.
8. Nothing may be used to maneuver the two vehicles. This includes remote controls, tracks, grooves, etc. The two vehicles may not be connected in any way.
9. The mousetraps may be attached to panels, boards, etc. These panels, boards, etc. must fit within the course.
10. The towed balloon must be attached to, or towed no more than six inches behind the electrical vehicle. Should the vehicle go out of the boundaries of the 24" path, or break the balloon outside the designated area, no points will be awarded for breaking the balloon. The vehicle's design points for style will still be given.
11. The time limit for style, set-up, and problem competition is 9 minutes.
12. Excluding the items exempt from cost in the *OM Program Handbook*, the cost is not to exceed $50.00 (US), not including mousetraps. Additional points will be given for less money spent. Under $40 = +5 points; under $30 = +10 points; under $20 = +15 points. This is the judge's decision.
13. The team may have extra mousetraps on hand as replacements, but may use only 50 at one time for the Chain Reaction.
14. Team members may enter and exit the course without penalty.

D. The Competition

1. The team will be in the staging area until the signal to begin is given.
2. Prior to competition, the team will give the judge its Chain Reaction diagram, (See Style 4), which also contains the following information:
   (a) the estimated length of time from the signal to begin until the ringing of the bell
   (b) the team's free choice of task #7
   (c) the team's free choice of task #8
3. The Chain Reaction will be set up as desired by the team as long as it fits with the space allotted in Figure A.
4. One team member will set off the first mousetrap. At that point, no member of the team may touch, interfere, or come in contact with any mousetrap except under penalty.
5. In case of a systems breakdown, if necessary, the team will be allowed to continue by replacing traps and by triggering another trap. This carries a 15 point penalty for each restart. (See Scoring, Penalties #1.) Time continues.
6. All team members will be outside the perimeter of the site when the Chain Reaction begins.
7. If time runs out or the bell is rung, the team must stop the long-term problem solution.

E. Site and Set-up

1. The overall site dimensions are 10' x 12'. This area should be taped preferably with black vinyl electrical tape.
2. The three broken lines on Figure A should not be taped. Use chalk, existing lines on the floor, board or tile seams, or place an arrow indicating imaginary lines. Taping the broken lines can prevent the vehicles from crossing the tape or alter their courses.

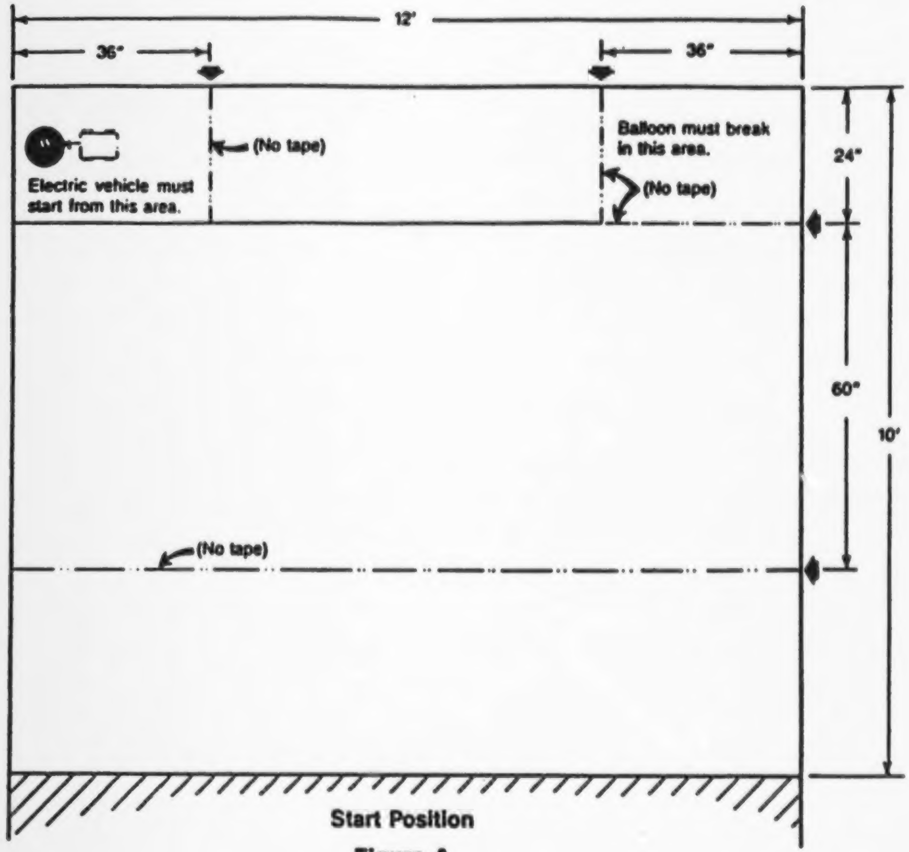

12'
36"
36"
Balloon must break in this area.
(No tape)
24"
Electric vehicle must start from this area.
(No tape)
60"
10'
(No tape)
Start Position

Figure A

F. Scoring

1. Sets off 2 mousetraps at once	15 points
2. Starts a battery-operated vehicle	15 points
3. Starts a mousemobile	15 points
4. Mousemobile breaks a balloon towed by battery-operated vehicle. Points are awarded only if both vehicles are moving when the balloon breaks	15 points
5. Breaks one stationary balloon	15 points
6. Starts music playing	15 points
7. Free Choice, creativity and execution of a task	1 to 15 points
8. Free Choice, creativity and execution of a task	1 to 15 points
9. Raises a flag	15 points
10. Signals the crowd to cheer	15 points
11. Rings a bell	15 points
12. Team estimates its own time beginning when the judge gives the signal to begin until the bell rings. If the estimated time is within:	
0 to 3 seconds of estimated time of completion	20 points
4 to 10 seconds of estimated time of completion	15 points
11 to 30 seconds of estimated time of completion	10 points
31 to 60 seconds of estimated time of completion	5 points
over 60 seconds of estimated time of completion	0 points

13. Lower cost = higher score:

Under $40 =	+5 points
Under $30 =	+10 points
Under $20 =	+15 points

Maximum Possible: 200 points

Penalties

1. Each restart of the Chain Reaction	-15 points
2. Any team member/spectator injured by a mousetrap or flying debris (each offense)	-25 points
3. Overtime	no penalty but no tasks will be scored after time expires
4. Mousetrap not set off when the bell rings or time runs out (each mousetrap)	-1 point
5. Mousetrap not reinforced (one time penalty each mousetrap)	-25 points
6. Outside assistance (each offense)	-5 to -100 points
7. Violation of the Spirit of the Problem (each offense)	-5 to -25 points
8. Unsportsmanlike conduct (each offense)	-5 to -25 points
9. Incorrect or missing membership sign	-1 to -15 points
10. The Chain Reaction diagram differs from actual layout	-1 to -15 points
11. Over cost limit	–5 to –50 points

G. Style (Elaboration of the Problem Solution)
Use Style form from the *OM Program Handbook.*

Select any three from the following seven items.

1. to 3.

• Membership Sign	1 to 10 points
• The Design of the Electrical Vehicle	1 to 10 points
• Costumes	1 to 10 points
• Mime/Nonlinguistic Performance	1 to 10 points
• Special Effects	1 to 10 points
• The Appearance of the Mousemobile	1 to 10 points
• Props/Background	1 to 10 points

Then Add:

4. A Drawing or a Diagram of the Chain Reaction Layout Identifying Task Areas (D. #2)	1 to 10 points
5. Overall Effect	1 to 10 points

Maximum Total: 50 points

H. Tournament Director Will Provide

1. Taped wood, tile, concrete, or uncarpeted floor indicating the course
2. A timing device (preferably 2)
3. Scoresheets and pencils
4. A minimum of three judges
5. An electrical outlet and an extension cord which will accept a three-prong plug

I. Team Must Provide (In addition to the items listed in the *OM Program Handbook.*)

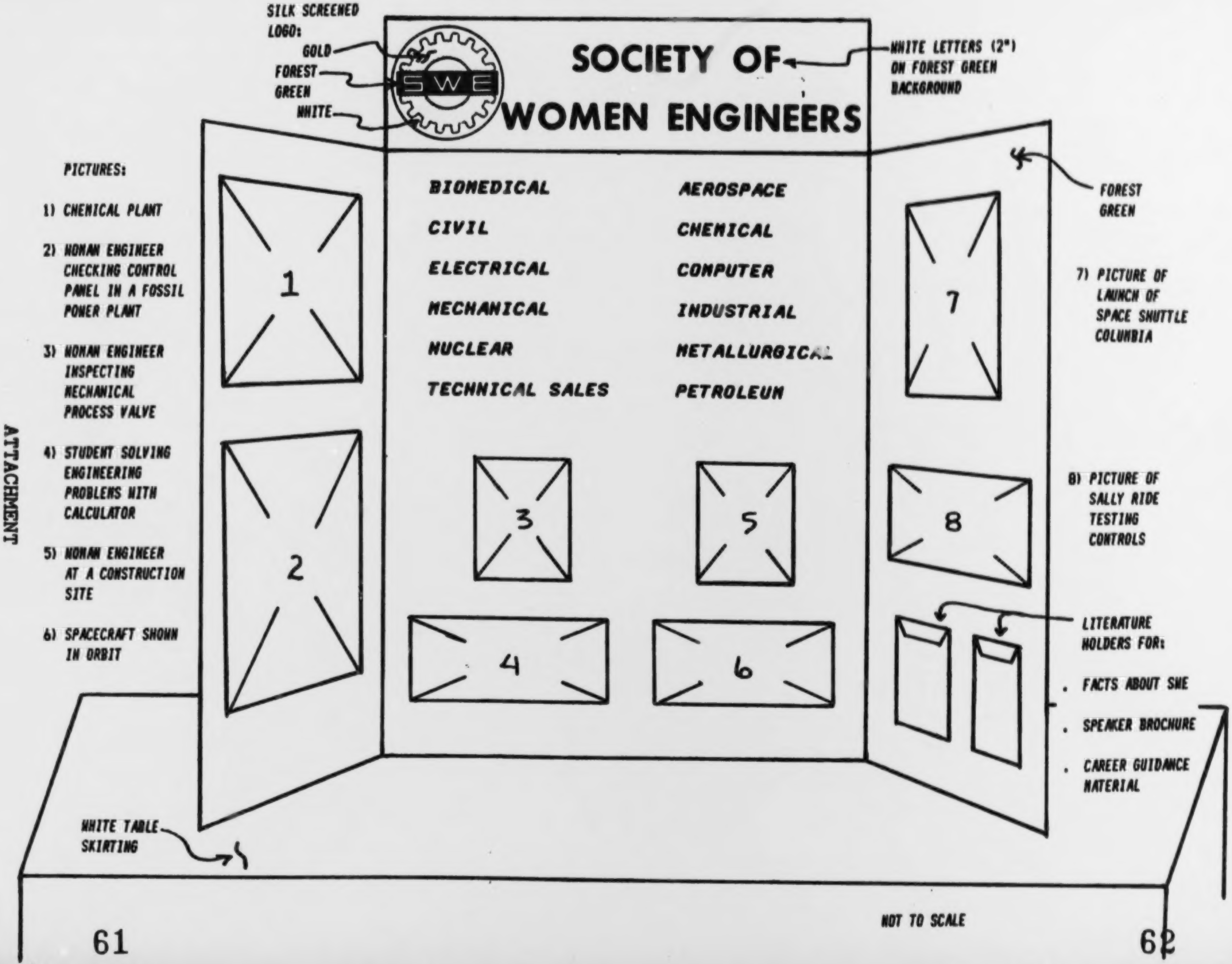
A Diagram of the Chain Reaction (D. #2 and G. #4, including the estimated time to ring the bell and the team's choice of tasks numbered 7 and 8)

***Implications for further study: (Optional, no credit)**

1. **Can you name sociological chain reactions? What causes them?**
2. **Can you name psychological chain reactions? What causes them?**
3. **Can you name physiological chain reactions? What causes them?**
4. **How many ways can you catch an animal without injuring it?**
5. **Should animals be trapped? Why? What is the difference between conservation and preservation?**

Problem by: C. Samuel Micklus, Ed.D. and Carole Micklus

ATTACHMENT II-F


SWE
SOCIETY OF WOMEN ENGINEERS
BIOMEDICAL
CIVIL
ELECTRICAL
MECHANICAL
NUCLEAR
TECHNICAL SALES
AEROSPACE
CHEMICAL
COMPUTER
INDUSTRIAL
METALLURGICAL
PETROLEUM
1
2
3
4
5
6
7
8

SILK SCREENED LOGO:
GOLD
FOREST GREEN
WHITE

WHITE LETTERS (2") ON FOREST GREEN BACKGROUND

PICTURES:

1) CHEMICAL PLANT

2) WOMAN ENGINEER CHECKING CONTROL PANEL IN A FOSSIL POWER PLANT

3) WOMAN ENGINEER INSPECTING MECHANICAL PROCESS VALVE

4) STUDENT SOLVING ENGINEERING PROBLEMS WITH CALCULATOR

5) WOMAN ENGINEER AT A CONSTRUCTION SITE

6) SPACECRAFT SHOWN IN ORBIT

FOREST GREEN

7) PICTURE OF LAUNCH OF SPACE SHUTTLE COLUMBIA

8) PICTURE OF SALLY RIDE TESTING CONTROLS

LITERATURE HOLDERS FOR:

- FACTS ABOUT SWE
- SPEAKER BROCHURE
- CAREER GUIDANCE MATERIAL

WHITE TABLE SKIRTING

NOT TO SCALE

TINKER ··· TOYS ··· TECHNOLOGY

NATIONAL GIRL SCOUT OPPORTUNITY JULY 2 - 15, 1982

PROJECTS: To help you complete the PROJECTS successfully, the Council Office library has been stocked with a variety of books to help you and your troop understand the concepts of the activities explored. There are a number of instructions for games and crafts available.

TRIPS: The TRIPS are easier, but the girls will often need some preparation prior to the trip. Check the library!

CAREER EXPLORATION: The CAREER EXPLORATION is intended to make the girls aware of the many career options available in technological fields, but also to point out the educational preparation needed to enter these fields.

IMPORTANT PEOPLE: The IMPORTANT PEOPLE can be a tool to discover the history of the field, or to aid in an awareness of women's role in these developing fields. A bus trip to the library to research these VIPs would be a good idea.

BADGEWORK: Junior, Cadette, and Senior Girl Scouts are encouraged to explore one or more of these fields more closely by completing a BADGE or PATCH. Don't overlook the option of creating "Your Own Troop's" badge.

SERVICE: All Girl Scout programs should include SERVICE. Don't overlook this area.

sponsored by

GIRL SCOUTS

SANTA CLARA COUNTY GIRL SCOUT COUNCIL
1543 PARKMOOR PLAZA
P.O. BOX 28527
SAN JOSE, CA 95159

SWE

SOCIETY OF WOMEN ENGINEERS
SAN FRANCISCO BAY AREA SECTION
P.O. BOX 61333
SUNNYVALE, CA 94088

ATTACHMENT
II-G

Space

PROJECTS

- Make a model of the solar system
- Go stargazing. Watch for falling stars. Identify constellations
- Cosmos pajama party. View videotapes and discuss black holes, neutron stars, etc.
- Star Trek pajama party. View and discuss Star Trek videotaped shows
- Compute time to travel to several stars
- Make paper satellites. Ford Aerospace has punch-out models
- Space garbage. What is up there
- Eclipse. What is it and when will we see one here
- View the stars with a telescope
- Satellites. What jobs do they do
- Read and discuss science fiction by Robert Heinlein and Ray Bradbury

TRIPS

- NASA tour - speaker, slide show, or simulator
- Visit an observatory
- Go to an amateur astronomy meeting
- Go to a space shuttle landing (rent a van)
- Lockheed - space telescope
- Lockheed - space shuttle tile

CAREER EXPLORATION

- Women in space program - NASA
- Astronaut - How do you prepare for a career as an astronaut
- Astronaut - What do you do after you have been an astronaut

IMPORTANT PEOPLE

- Neil Armstrong
- Galileo Galilei
- Robert Goddard
- Wehrner von Braun

SERVICE

- Write letters to congressmen and senators regarding money for space
- Visit a Veterans hospital
- Learn about grass roots fundraising to send probe to view Haley's Comet

RELATED BADGEWORK

- Dabbler Today and Tomorrow
- Aerospace Badge
- Star (Old Cadette Badge)

Computers

PROJECTS

- o Use computers: school or home units
- o Program simple games: Tic Tac Toe, Stars, Guess a Number, etc.
- o Build a computer from a kit (expensive)
- o Learn the binary number system: add, subtract, count, etc.
- o Use coded computer cards for treasure hunt clues
- o Learn Booleian algebra
- o Invite the Atari Mobile Computer to your school
- o Make flow charts for learning camping skills
- o Play "Robot" and Muffin Is Ready" games
- o Learn how computers are used in newspapers

TRIPS

- o Visit a store with computerized merchandizing: Alpha Beta, Sears
- o Tour a computer company: Apple, Atari, Radio Shack, Computerland, Byte Shop
- o Registrar of voters: computer tally of votes
- o Lawrence Hall of Science (Berkeley)
- o Foothill College Electronic Museum
- o Hewlett-Packard tours
- o BART computer center

CAREER EXPLORATION

- o Society of Women Engineers: speaker
- o Parents in computer work

IMPORTANT PEOPLE

- o Charles Babbit
- o Ada Lovelace (Lord Byron's daughter)
- o Joseph Jacquard

SERVICE

- o Cadettes and Seniors: write programs for use by younger girls
- o Teach the "Robot" or "Muffin" games
- o Use a computer or word processor for troop newsletter, dues, and permissions

RELATED BADGEWORK

- o Dabbler Today and Tomorrow
- o Computer Fun Badge

ATTACHMENT
II-G3

Physics

PROJECTS

- Make and fly paper airplanes or kites - have contest
- Work as ground crew for hot air balloon club flights. (Lockheed has club)
- Determine the height of a tree using Trigonometry (angles, height, and distance)
- Make models of atoms using Tinker Toys, straws, and styrofoam balls
- Learn how to use the Chemical Rubber Company Handbook of Physics
- Learn about magnets - the earth as a magnet, too
- Learn about gravity and the planets in the solar system
- Go ice skating. Watch the blades as you spin, turn, stop, corner
- Play with prisms. How is a rainbow made?
- Fiber optics. Why does the light follow the curve of the glass
- Pulley and lever experiments. See Boy Scout Badge Book

TRIPS

- Visit the Balclutha in San Francisco. How do pulleys work sails?
- Experience the centrifugal forces at Great America. Discuss first
- Visit auto shop - mechanical advantage of tools
- Laser rock show at the planetarium
- Exploratorium - San Francisco
- Tour the airport

CAREER EXPLORATION

- Society of Women Engineers - speakers
- Women pilots
- Physicist

IMPORTANT PEOPLE

- Marie and Pierre Curie
- Irene Curie Joliot
- Marie Goeppert-Mayer
- Lise Meitner

SERVICE

- Learn to change a flat tire
- Ground crew for balloon club

RELATED BADGEWORK

- Putting Things Together Badge
- Science Sleuth Badge
- Auto Maintenance Patch

ATTACHMENT
II-G4

Energy

PROJECTS

- Make ice cream: discuss the heat transfer process. Why use salt?
- Compare energy bills: Determine the cost of lights, shower, appliances
- Wash the laundry with cold water one month: Cheaper? Cleaner?
- Prepare, serve, and eat a dinner without using any power
- Learn to wind surf - sail a boat - make pin wheels
- Learn how to turn off the gas, water, and electricity in case of emergency
- Keep a daily log of all energy used in your home
- List sources of energy: How is each converted to useful energy?
- Compare cost per mile of cars and buses: Actual, social, government costs
- Fly kites at the beach. Measure the pull of various kites (backpack scale)
- Where are our nearest sources of power? Water, electric, atomic, etc.
- Calculate home heating losses and hot water costs. Worksheet available.

TRIPS

- Tour an energy efficient house
- Visit San Luis dam and wind generator
- Visit a PG&E station - working windmill
- Geyserville geothermal energy plants (PG&E)
- Make several trips using public transportation
- Energy displays at Marin Headlands
- Accurex solar energy tour - Electric Power Research Institute
- Lockheed ocean systems - electricity from waves - thermal gradient in ocean water

CAREER EXPLORATION

- Society of Women Engineers: speaker
- Gas station attendant - gas shortage
- PG&E energy audit

IMPORTANT PEOPLE

- Benjamin Franklin
- James Watt
- Rudolf Diesel
- Isaac Newton
- Lillian Gilbreth
- Leonardo da Vinci

SERVICE

- Save energy 10 ways
- Distribute PG&E flyers

RELATED BADGEWORK

- Dabbler Today and Tomorrow
- Energy Saver Badge
- Water Wonders Badge
- Energy Awareness Patch

ATTACHMENT
II-G5

Electronics & Communications

PROJECTS

- Take apart an old radio, then put it back together again
- What was the progression to expand the reach in communication: (sight, wire, telephone, radio, television, satellite)
- Learn to use the Morse Code
- Learn how satellites are used by Bell Telephone
- Build a crystal radio. (Kit about $6)
- Am radio, FM radio. How are they different
- Learn to read the resistor color code
- Build a simple electric circuit (buzzer or siren circuit)
- Look at an integral circuit through a microscope
- Find out about Datalog

TRIPS

- Visit a repair shop - any appliance
- Tour the phone company
- Visit a radio or TV station - not just the disk jockey, but the engineer, too
- Visit newspaper or book publishers (Mercury-News, McGraw-Hill, Sunset)
- Foothill Electronic Museum
- Visit a ham radio operator. How do you get a license
- Visit the post office

CAREER EXPLORATION

- Society of Women Engineers - speakers
- Interview repairmen - radio, TV, etc.

IMPORTANT PEOPLE

- Samuel Morse
- Thomas Edison
- Alexander Graham Bell
- Guglielmo Marconi
- Edwin Howard Armstrong
- Heinreich Hertz
- Lee De Forest

SERVICE

- Learn to do minor electric repairs and change fuses
- Get your ham radio license

RELATED BADGEWORK

- Math Whiz Badge
- Handywoman (Old Cadette Badge)

Join JETS and take off into your future!

Any high school student interested in math, science, engineering or technology can experience the exciting world of JETS.

A JETS club, or "chapter," can be formed by five or more students and a teacher as the club's advisor. Many JETS chapters also have a person from business or industry as their engineering advisor.

An existing school club can also become associated with JETS, for example, as a JETS Math Club or JETS Science Club.

Although being part of a JETS club is more fun, an individual may become a JETS member-at-large and receive all the benefits of membership.

JETS membership gives you all these:

- JETS membership card
- Subscription to ***JETS REPORT,*** the monthly newsletter
- Participation in all JETS activities and competitions
- More action and more fun in high school today ... preparing for the exciting world of tomorrow

Join JETS and rise above the ordinary!

The name of the game is excellence. Here's how JETS people play it:

With TEAMS, the World Series for mental athletes. TEAMS covers all the bases in a college-preparatory program. School teams train hard and see their efforts rewarded in exciting competitions.

With NEAS, the "JETS test." You lead the Search into your own interests, abilities, and aptitudes for the study of engineering or other technical programs.

With Engineering Design Contests. You'll experience the thrill of designing and building an engineering model to test against others.

With Guidance Publications. You'll learn about what colleges expect of you and can offer you. You'll learn what people do in various jobs, what opportunities there are for you, what careers may be best for you.

With JETS Chapter challenges and fun. A JETS Chapter can be everything that its members want it to be. Activities can include field trips ... workshops ... contests ... projects ... speakers ... scientific experiments and demonstrations ... tours of plants, offices, and colleges ... social events. With JETS, the sky's the limit!

JETS, Inc.
United Engineering Center
345 East 47th Street
New York, NY 10017
(212) 705-7690

JETS

exploring the world of tomorrow ... today

I'm very interested in JETS.
Please send me the items I've marked.

Circle one: Student
Teacher

Name ______________________________

Address ______________________________

City ______________________________

State ____________________ Zip ____________

Name of my school ______________________________

Address of my school ______________________________

Mail this form to JETS, Inc., United Engineering Center, 345 East 47th Street, New York, NY 10017.

- ☐ FREE: ***JETS Starter Kit*** which explains how to start a new JETS Chapter or affiliate an existing club
- ☐ FREE: List of JETS materials and how to order them
- ☐ FREE: Information on TEAMS competition (Tests of Engineering Aptitude, Math and Science)
- ☐ FREE: Information on the National Engineering Aptitude Search (NEAS), often called "the JETS test"
- ☐ FREE: List of JETS Career Guidance Publications and how to order them
- ☐ FREE: List of all the pre-engineering summer programs offered for high school students
- ☐ Membership-at-large, with $5.00 annual dues (check or money order payable to JETS, Inc.). I will receive a JETS membership card, pin and subscription to ***JETS REPORT.*** Though I am not part of a JETS chapter, I will be eligible to participate in all JETS activities, programs and competitions.

ATTACHMENT
II-H

DAY IN THE LIFE

Conducting the Program

The program should be scheduled to span approximately eight hours including lunch. The introductory portion will take about an hour including questions. The rest of the day will be spent in groups except for 30 minutes at the end for presenting the design and bid proposals, evaluating the course and presenting Certificates of Achievement.

Many of the materials listed are simply visual aids and can be eliminated if necessary. The flip chart is useful for the final presentation to the whole group. The wood planks and end supports are very useful for the "companies" to visualize various layout options for the problem.

A schedule for the day might look like this:

8:15 - 8:30	Registration - check each student off master list, issue name tag and hand out program outline.
8:30 - 9:30	Introductory lecture (outline parts I and II). It's important to follow this with questions and answers. If the students are shy, ask them questions. A ten-minute break before the questions, may give the opportunity to unobtrusively find out what they don't understand. (Coffee/milk should be available). Blank transparencies are useful here. Also helpful is a discussion of examples such as the Kansas City Hyatt disaster possibly being a sheer failure.
9:45 - 12:00	Introduction to the problem (by co-leader) and breaking into companies. Girls should be assigned to companies where they are with people they don't know. Company advisors are in charge of individual groups. Peanuts in each room will help with the "mood".
12:00 - 12:45	Lunch - if possible, brown-bagging in groups allows more interaction time and problem-solving time. However, an organized luncheon gives students time to talk to different SWE members. Each has its advantages.
12:45 - 4:00	Continue work on problem. SWEM's acting as sub-contractors and company representatives should be available for phone calls here.

Seminar leader/co-leader should monitor rooms to check progress, answer questions, keep group on track and out of trouble. Both must be very familiar with the problem. If the group seems very advanced, interruptions with requests to provide cost estimates for something unrelated humorous telephone messages or requests from their boss to write a memo on another project will make the day even more realistic and fun. Here, the leaders must be observant of group's progress and creativity.

4:00 - 4:30 Whole group reconvenes and one representative from each company presents their design summary and bid price. Co-leader, as architectural representative comments on each and awards the contract. Each student should be asked to fill out an evaluation form and, finally, the Certificates of Achievement presented.

Cost Estimate:

Cost to conduct the program can range from $20.00 to several hundred dollars depending on facility, copying support and source of students. Items to consider in a cost estimate are as follows:

Facility __________
Invitations __________
Certificates __________
Copying __________ (50 pages per student & SWEM)
Binders __________ (one per stuent and SWEM)
SWE Brochures __________ (one per student)
Flipchart __________
Slides __________ (16 + blank transparencies)
Paper __________
Pencils __________
Name Tags __________
Refreshments __________
Lunch __________
Message Pad __________
Peanuts __________ (optional)

EXPANDING YOUR HORIZONS

IN SCIENCE, MATHEMATICS, AND ENGINEERING

Saturday, March 14, 1987
San Jose State University

The ninth annual conference
for 6th to 12th grade young women
and interested adults presented by
SAN JOSE STATE UNIVERSITY
and the MATH/SCIENCE NETWORK

EXPANDING YOUR HORIZONS™

Saturday, March 14, 1987
San Jose State University

STUDENT REGISTRATION FORM

PLEASE PRINT CLEARLY

GIRL'S NAME____
Last First

ADDRESS____

CITY________________ ZIP________________

PHONE________ SCHOOL________________________

SCHOOL DISTRICT____________ GRADE____________

What careers are you considering?

STUDENT WORKSHOP CHOICES

Write the number of your first six choices:
(You will be assigned three.)

1st	2nd	3rd	4th	5th	6th
☐☐	☐☐	☐☐	☐☐	☐☐	☐☐

ADULT REGISTRATION FORM

PLEASE PRINT CLEARLY

NAME____
Last First

ADDRESS____

CITY______________ ZIP__________ PHONE__________

You are free to silently observe student sessions your girls are not concurrently attending. If you plan to attend any adult workshops, please circle your choices below (up to three).

A1 A2 A3

REGISTRATION FEES

The fee is $6.00 if your registration is postmarked by **February 27, 1987.** Late registration is $10.00. *Applications postmarked later than March 6, 1987 will not be accepted. There will be no registration at the conference.* Fees include the cost of lunch.

Make your check payable to: **San Jose EYH Conference**
Scholarships are available. Phone: (415) 490-6284.

Mail your check and the completed registration form to:

EYH Conference
P.O. Box 1162
Campbell, CA 95009

Sorry, we cannot mail confirmation of your registration. For groups of 10 or more, you must call (415) 490-6284 to make arrangements.

ATTACHMENT
II-K

EXPANDING YOUR HORIZONS™

WHY SHOULD *YOU* COME?

- ***Find out how interesting and fun mathematics and science can be***
- ***Learn about career opportunities for women in mathematics, engineering and science***
- ***Form personal contacts with women working in traditionally male occupations***
- ***Meet other young women who are interested in science and math***

Who is invited?

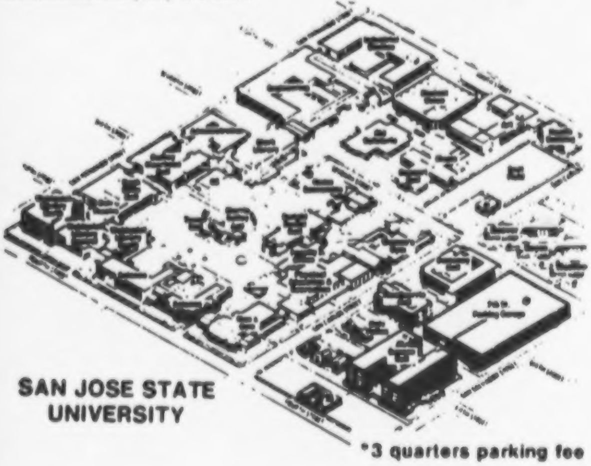
All 6th to 12th grade young women and interested adults.

What will we do?

The conference begins with an opening welcome and speaker. The rest of the day is devoted to workshops. A workshop is a small class or discussion led by women who have careers in math, science or engineering. Hands-on workshops provide an opportunity for you to experiment in a specific area such as computer science or medicine. Guidance workshops provide general information about career planning. Career workshops are small group discussions with women in scientific careers. There is time to attend three workshops. (We' ll provide lunch.)

Registration

Register by mail using the form on the previous page. On the registration form indicate your 6 favorite workshops. We will assign 3 in order of preference *if possible.* If all your choices are full we will place you in other workshops. Popular workshops fill up quickly so register early to get your first choices. Adults may specify their choice of adult workshop on the registration form. Adults may silently observe student workshops. There is no need for adults to sign up for these. The cost of lunch and all materials is covered by the registration fees. For additional information call (415) 490-6284.



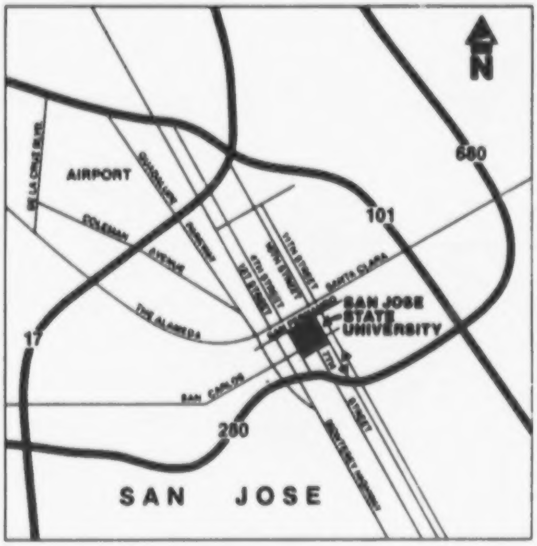
EXPANDING YOUR HORIZONS™

Saturday, March 14, 1987
San Jose State University

Day of the Conference Schedule

The conference begins at 9:00 am Saturday, March 14. You should pick up your conference information packet (containing your assigned workshops) between 8:00 am and 8:45 am on the day of the conference at the Morris Dailey Auditorium, San Jose State University. Groups should arrive early.

8:00	Registration begins in Morris Dailey Auditorium
9:00	Welcome *Dr. Gail Fullerton* *President, San Jose State University*
9:10	What's Out There for You? *Tamara Jernigan* *NASA Astronaut*
10:25	Snack
10:45	Morning Workshop I
12:00	Morning Workshop II
1:00	Lunch
1:45	Afternoon Workshop
3:00	Closing Remarks, Door Prizes, Conference Evaluation
3:30	End of conference



COMPUTER/MATHEMATICS WORKSHOPS

1 **MACHINES IN THE KNOW** (9-12 only)
Find out how knowledge engineers program computers to behave like experts in a variety of fields. Design a running shoe advisor; explore demonstration programs for use in medicine, petroleum and consumer selection.
Cecilie Hoffman, knowledge engineer; Laura Kusumoto, software engineer, Teknowledge, Inc.

2 **LET'S TALK TURTLE** (6-8 only)
An introduction to LOGO and turtle graphics.
Barbara Pence, professor, Dept. of Mathematics and Computer Science, SJSU

3 **COMPUTERS DON'T BYTE**
Do computer graphics, writing, electronic mail and computer games on a multiuser "UNIX" computer system.
Barbara Bekins, computer specialist, U.S. Geological Survey
Kate Breckenridge, computer assistant, U.S. Geological Survey

4 **WE HAVE DESIGNS ON YOU**
Computer-aided design workshop.
Silvia Lee, Melinda Lee, students, Computer Science Engineering Dept., SJSU

5 **INTRODUCTION TO LOGO** (6-8 only)
Learn some LOGO and Turtle graphics on Apple II computers.
Joanne Rossi Becker, professor, Dept. of Mathematics and Computer Science, SJSU

6 **MAKING IT!**
Automated robot and computerized manufacturing systems.
Noorein Inamdar, student, Industrial and Systems Engineering Dept., SJSU

7 **IBM PERSONAL COMPUTERS**
Hands-on look at the insides of an IBM-PC.
Virginia Panlasigui, Janice Mead, programmers, IBM

8 **CHECKS AND BALANCES**
Learn about accounting and business finance.
Jeannie Johnson, financial analyst, Western Communications, Inc.

9 **DIGITAL LOGIC DESIGN** (9-12 only)
Learn about the math that makes computers work: binary numbers and boolean algebra. Experiment with 3 standard logic chips: AND gates, OR gates and inverters.
Susan Soss, research engineer, Lockheed Missiles and Space Co.

10 **COMMUNICATING WITH COMPUTERS** (6-10 only)
There are various ways people communicate using computers. They are much like talking on a telephone, writing a letter, or putting a notice on a bulletin board.
Nancy Blachman, systems programmer, RIACS, NASA-Ames

11 **FRACTURED FAIRY TALES AND FASCINATING MATH**
Some fun problems involving logic, probability, and geometry.
Marilyn Blockus, professor, Dept. of Mathematics and Computer Science, SJSU

12 **CREATIVE PROBLEM SOLVING**
Play with problems and puzzles with a mathematical flavor and see how mathematics can provide insight into problems which don't seem to be related to mathematics.
Eloise Hamann, Dept. of Mathematics and Computer Science, SJSU

13 **IT'S COMBINATORICS THAT COUNTS**
Combinatorics provides the tools needed for solving problems ranging from school bus scheduling and city planning to genetics, computer science and space exploration. You will learn how to solve these plus puzzles and magic,too.
Tatiana Deretsky, professor, Dept. Math and Computer Science, SJSU

14 **EYES OF COMPUTERS**
Use a computer vision system and learn how it can see things that you can't.
Cathy Keely, mechanical engineer, Hewlett Packard

15 **GEOMETRIC COUNTING PROBLEMS**
Discover formulas for geometric patterns.
Ann Preston, professor, Mathematics Dept., Santa Clara University

16 **STATISTICS AND PROBABILITY**
Play with problems and puzzles.
Barbara Chudilowsky, mathematics professor, DeAnza College.

17 **MAKING AND BREAKING SECRET CODES**
Use basic math to solve substitution and transposition codes.
Lila Kung, engineer/teacher

ENGINEERING WORKSHOPS

18 **BEYOND THE HORIZON**
Aviation, what's in it for women?
students, Aeronautical Engineering Dept. SJSU

19 **BINARY – ON OR OFF?**
An introduction to digital logic and binary numbers.
Sharon Lum, electrical engineer, IBM Corporation

20 **HOW DOES WATER FLOW?**
Come see our indoor river: a "hydraulic flume" where we can simulate a raging torrent, build a dam, or model surf.
Katherine Rubin, Linda Sinderman, students, Civil Engineering Dept., SJSU

ATTACHMENT
II-K3

21 **MATERIAL MAGIC**
We'll cause steel and rubber to shatter like glass, examine materials in the scanning electron microscope, and perform other amazing experiments.
Linda Clements, professor, Materials Engineering Dept., SJSU

22 **GENERATING EXCITEMENT IN ELECTRONICS**
Learn how to use an oscilloscope and see what your voice looks like.
students, Electrical Engineering Dept., SJSU

23 **THE SHAPE OF SPEED**
Discover the fluid dynamics of lift and drag by racing a model sailboat and building paper airplanes.
Nancy Pettengill, Cheryl Baylie, mechanical engineers, MK-Ferguson, Inc.

24 **HOW DO YOU ENGINEER CHEMISTRY?**
Demonstration and discussion of opportunities in Chemical Engineering.
students, Chemical Engineering Dept., SJSU

25 **THE SKY IS NOT THE LIMIT**
A whirlwind tour through the technologies of aviation and space flight.
Michelle Eschow, Barbara Townsend, Katherine Hilbert,
Marcie Smith, aeronautical engineers, NASA-Ames Research Center

26 **LEARN TO SHORT CIRCUIT ALL YOUR PROBLEMS**
Electronics workshop.
students, Electrical Engineering Dept., SJSU

27 **WHO IS MECHANICAL?**
Make your own Niagara Falls and explore what happens when you speed along in a jet airplane.
Laura Harmon, Charlotte Reeve, students, Mechanical Engineering Dept., SJSU

BIOLOGICAL/MEDICAL WORKSHOPS

28 **FOR YOUR EYES ONLY**
Learn about vision, the optics of lenses, and how glasses and contacts are made.
Judith Holcomb, OD, optometrist, Kaiser Hospital-Redwood City,
Katherine Torrence, optician, Kaiser Medical Center-Milpitas

29 **THAT'S MY BABY**
Follow the activities of a modern day nurse midwife and learn of the various opportunities in the field of medicine.
Donna Farley, registered nurse and certified nurse midwife, Kaiser Medical Center-Milpitas

30 **DENTISTRY: A LIGHT FOR THE FUTURE**
Take impressions and make a model of your own teeth, use a bonding light for sealants and cosmetic bonding, and learn about the dental professions..
Phyllis Ishida, DDS, dentist
Christine Cook, DDS, dentist

31 **PEDIATRICS IS NOT JUST FOR KIDS**
Learn about the daily routine of a doctor and how you could become one.
Dr. Kim Harvey, pediatrician

32 **BRAIN STORMING**
Learn about how your own brain functions, see your own brain waves and try to control them.
Sally Veregge, professor, Dept. of Biological Sciences, SJSU

33 **ADD A LITTLE COLOR TO YOUR LIFE**
Learn about the role of color reactions in biological measurements, use dyes to determine the amount of different biological substances.
Ildiko Virag, Elly Nedivi, Dept. of Neurobiology, Stanford School of Medicine

34 **MOVING GENES AROUND – GENETIC ENGINEERING**
How do we tranfer genes between organisms? How can we get a bacteria to act like a factory to produce proteins (like insulin) to help fight human diseases?
Pam Stacks, professor, Dept. of Chemistry, SJSU

35 **ANTIBODY PURIFICATION AND DETECTION**
Learn chromatographic and enzymatic techniques for purifying and detecting antibodies.
Dr. Beth Hutchins, senior chemist, SYVA Co.

36 **NOW YOU SEE IT, NOW YOU DON'T**
Learn how a biochemist can make things "too small to be seen" visible.
Ruth Moser, Chris Miller, biochemists, SYVA Co

37 **ALL CREATURES FEATHERED AND FURRY**
Learn about the care and feeding of the "female veterinarian".
Dr. Susan Klopfer, DVM, veterinarian

SCIENCE WORKSHOPS

38 **ONE STEP BEYOND**
Learn why you need to know science to be in sales. We will solder electronic circuits, treat fabric with Scotchgard and test paper.
Diane Dickert, sales representative, Commercial Chemicals Division, 3M

39 **TEPHRA: A KEY TO THE PAST**
Learn how volcanic ashes are used to solve geologic problems.
Janet Slate, geologist, U.S. Geological Survey

40 CRIME AND CHEMISTRY
Learn what a chemist does in a crime lab.
Lisa Brewer, criminalist, Office of the Attorney General, Criminalistics Lab

41 NATURE A TO Z
Join a ranger to discover who lives in the world around you.
Winston Dines, naturalist, Coyote Hills Regional Park

42 LIGHTS! MUSIC! ACTION!
Come and find out how musical instruments, microphones and lasers are examples of the importance of vibration and waves in everyday life.
Marjorie Olmstead, professor, Dept. of Physics, UC Berkeley

43 EARTHQUAKES, VOLCANOES AND GLACIERS
Come see where the study of geophysics can take you around the globe
Caryl Michaelson, geophysicist, US Geological Survey

44 METEOROLOGY (6-8 only)
Learn how we predict the weather and what a meteorologist does.
Dept. of Meteorology, SJSU

45 HIDDEN WATER
Ground water: what is it, where does it come from, how does it flow, how do we use it and why do we need to protect it?
Hedeff Essaid, hydrologist, Evelyn Roeloffs, geophysicist, U.S. Geological Survey

46 ELECTRON BEAMS
Discover the behavior of electron beams and their applications in microscopy and in microlithography in the semiconductor industry.
Lydia Young, physicist/engineer, Perkin Elmer Electron Beam Technology

CAREER WORKSHOPS

Small group discussions with women in scientific career.

47 HOW PHYSICS HELPS PEOPLE
How physics is used in medicine and environmental protection.
Cherrill Spencer, physicist, Resonex, Inc.

48 WHAT IS ARTIFICIAL INTELLIGENCE? (6-8 only)
Find out how a knowledge engineer can program machines to "think".
Laura Kusumoto, Cecilie Hoffman, knowledge engineers, Teknowledge, Inc.

49 AVIATION- WHAT'S IN IT FOR WOMEN?
Terry Rinehart, flight officer, Western Airlines
Jeanne McElhatton, ground school instructor, Foothill College; certified flight instructor.

50 PHYSICS MADE FUN (11-12 only)
Cartoons presenting physics concepts.
Nancy Blachman, systems programmer, RIACS, NASA-Ames

51 MANY FACES OF ENGINEERING
The different types of careers in engineering will be explored.
Society of Women Engineers, Santa Clara Valley Section

GUIDANCE WORKSHOPS

52 CAREER DECISION MAKING BY COMPUTER (9-12 only)
Learn how to explore career options by using computers.
June Lim, career advisor, Career Planning and Placement Center, SJSU

53 MINORITY WOMEN IN SCIENCE AND TECHNOLOGY
Learn about opportunities for minority women in science and technology.
Ruth Colman, civil engineer, Brown and Lindsey Engineers

54 COLLEGE INFORMATION
Information on the types of colleges and programs available.
Rosa Nieto, Dea Nelson, Student Affirmative Action, SJSU

55 FINANCIAL AID
Information of the types of financial aid available.
Rita LeBarre, director, Financial Aid Office, Santa Clara University

WORKSHOPS FOR ADULTS

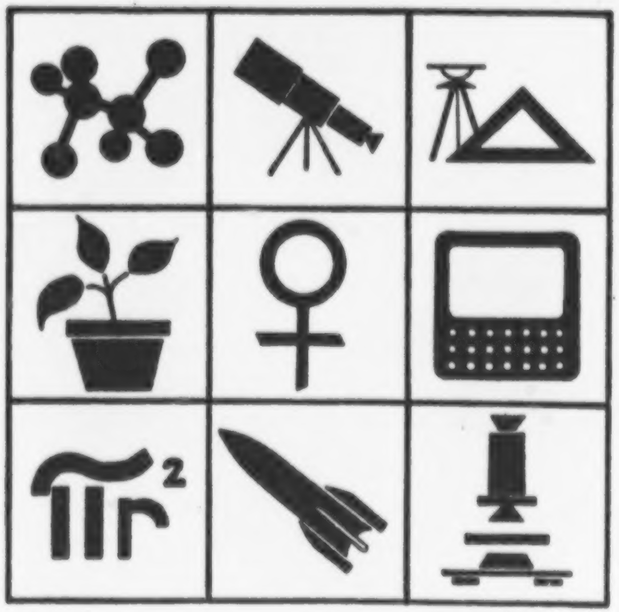
A1 SUBTRACTING FEAR FROM MATH
Claire Cloutier, instructor, Dept. of Math and Computer Science, SJSU

A2 THE WOMEN IN MATHEMATICS LECTURE PROGRAM
Alice Kelly, professor, Dept. of Mathematics, Santa Clara University

A3 EARTHQUAKE PREPAREDNESS
Thalia Anagnos, professor, Dept. of Civil Engineering, SJSU

TAKING THE ROAD LESS TRAVELED

Science. Math. Engineering. and Technology



Career Conference for Young Women
Grades 6-12
their Parents and Educators

Saturday, April 4, 1987
Iowa State University

"TAKING THE ROAD LESS TRAVELED"
April 4, 1987

8:15 - 9:10	**REGISTRATION** Coffee & Milk Punch	**GREAT HALL** **MEMORIAL UNION**
	DISPLAYS	**OAK ROOM** **MEMORIAL UNION**
9:10 - 9:30	**WELCOMING SESSION**	**GREAT HALL**
	Peg Lonnquist, Director Women's Center Ruth Swensen, Associate Dean of Science & Humanities Dr. Marit Nilsen-Hamilton, Associate Professor, Bio-chemist-Cell Biologist, Iowa State University Florine Swanson, Conference Planner	
9:45 - 10:30	**PARENT/EDUCATOR SESSION**	**CARVER HALL** **Room 101**
	"Developing a Sense of Purpose in Young Women" Cathann Arceneaux Program Asst. in the Honors Lab, University of Iowa Jennifer Hanson Learning Center Coordinator for the Women's Athletic Dept., University of Iowa	
9:45 - 10:30	**CAREER SESSIONS I** (Attend the 1st number on your name tag)	**CARVER HALL**

1.	Aerospace Engineering Cathy Pfeiler, McDonnell-Douglas	Room 150
6.	Natural Resources Mary Duritsa, Central Wisconsin Environmental Station	Room 124
14.	Entomology Barbara Hervey, DuPont Agricultural Products	Room 060
16.	Food Technology Debra Gibson, Banquet Foods	Room 128
17.	Forestry Reinee Hildebrandt, 4-H & Youth Natural Resources	Room 132
19.	Industrial Engineering Lora Barta, Procter & Gamble	Room 174

ATTACHMENT
II-L

ATTACHMENT II-L2

21. **Math-Actuary** Room 244
Marilyn Jenzan, Principal Mutual Life Insurance

22. **Mechanical Engineering** Room 184
Elizabeth Richards, Sandia National Laboratory (A.T.T.)

23. **Medical Technology** Room 250
Linda Blair, Iowa Methodist Medical Center

24. **Meterology** Room 160
Amy Mosher, Iowa State University

10:40 - 11:25 **PARENT EDUCATOR SESSIONS** Carver Hall

A. "Beating the Odds" Women students speak to parents Room 101
Moderator, Dr. Myrna Whigham, Freshman Engineering
Angie Hovland, 1E 4, Morton, IL
Becca Schauer, 1E 3, Acton, MA
Lydia Irby, EE 4, Inwood, NY
Angie Brynildson, CHEM 4, Stuart, IA
Leah Whigham, Sophmore, Ames High School
Megan Manatt, Sophmore, Ames High School

B. "Successful Programs that Work in Iowa Schools" Room 018
Moderator: Mary Ann Evans, Asst. V.P. Academic Affairs
"Go Power for Girls" - Kay North & Sally Beisser, Ames
"Computer Camps" - Jan Dunkel, Charles City
"Job Shadowing" - Nancy Nygren, Linn-Mar

10:40 - 11:25 **CAREER SESSIONS II** Carver Hall
(Attend the 2nd number on your name tag)

1. **Aerospace Engineering** Room 150
Cathy Pfeiler, McDonnell-Douglas

3. **Agronomy** Room 196
Jean Loesch, Pillsbury/Green Giant

5. **Botany** Room 004
Susan Grant, Pioneer Hi-Bred International, Inc.

7. **Chemistry** Room 256
Dr. Jean Lown, 3M Corporation

8. **Civil Engineering** Room 068
Laura Montgomery, G.D. Searle/Monsanto

9. **Computer Science** Room 280
Linda Bracken, Arthur Anderson & Co.

11. **Dentistry** Room 190
Dr. Shelle Shey Trepp, Webster City
Dr. Yvonne Chakely, University of Iowa

13. **Farm Management/Economics** Room 098
Nancy Barickman, Iowa State University Extension Service

16. **Food Technology** Room 128
Debra Gibson, Banquet Foods

20. **Math** Room 274
Kathleen Blankenberg, I.B.M.

23. **Medical Technology** Room 250
Linda Blair, Iowa Methodist Medical Center

25. **Metallurgical Engineering** Room 068
Allison Flood Evans, General Electric Co.

27. **Micobiology** Room 390
Dr. Lorraine Hoffman, Veterinary Diagonistic Lab

28. **Nuclear Engineering** Room 283
Laura Lind, Northern States Power Co.

11:40 - 1:00 **LUNCHEON** Memorial Union
(If your name tag has a blue dot please wait Sun Room &
to be seated, as you had a late registration) South Ballroom

KEY-NOTE - "Taking the Road Less Traveled"
Pat Boddy
Iowa Public Television
Former Project Engineer with Anderson Consultants

1:15 - 2:00 **PARENT/EDUCATOR SESSIONS** Carver Hall

A. Financing College Room 001
Moderator, Cheryl Wood, Ad. Grad. Asst. Women's Center
Debbie Corwin, Des Moines Area Community College
Barbara Montgomery, Drake University
Ardys Ulrichson, Iowa State University

B. "Beating the Odds" Women students speak to educators
and administrators Room 018

3:00	POP BREAK	Great Hall Memorial Union
3:15 - 3:30	WRAP-UP Rhonda Fulcher, Folk Guitarist & Executive Director of Iowa 4-H Foundation Peg Lonnquist, Director Women's Center	Great Hall
	HAVE A SAFE TRIP HOME!	
3:40 - 4:10	EVALUATION MEETING Parent/Educators	Room 301 Memorial Union
	EVALUATION MEETING Students	Room 306 Memorial Union

TAKING THE ROAD LESS TRAVELED is a career conference designed to show young women, their parents and educators opportunities in non-traditional fields for women in math, science, engineering and technology.

Tours, Displays, Career Exploration, and Parent/Educator Sessions Will:

- Expose young women to a variety of non-traditional careers
- Aid students, parents and educators in examining their goals and behaviors, and help them plan strategies for the future.
- Give young women, parents and educators the chance to meet women in non-traditional occupations and to share ideas among themselves.
- To increase interest in science, math, engineering and technology, and to provide support for young women to realize their potential in these areas.

STUDENT CAREER SESSION HOSTESSES

1. Kathleen Wood
P AER 3
Indianola, IA

2. Mary Paul
ME 4
Park Ridge, IL

3. Keyln Brix

4. Lisa Crabill
AG BIO 4
Bonaparte, IA

5. Diane Dostal
HORT 3
Marion, IA

6. Dana Hamilton
PS A 2
Churdan, IA

7. Janice Heitz
CH E 4
Council Bluffs, IA

8. Amy Saliger
P CE 4
Burnside, IA

9. Dara Price
P CPR 3
Clear Lake, IA

10. Jana Hibbs
P ENG 1
Chariton, IA

11. Christy Clark
BIOL 3
Des Moines, IA

12. Charletta Goneeth
AN S 3
Earlham, IA

13. Linda Kohout
EE 3
Iowa City, Iowa

14. Donna Knapp
DY S 3
Bernard, IA

15. Dawn Ashbacher
HS FN 3
Swisher, IA

16. Malinda Miller
AG JL 3
Dana, IA

17. Lynn Scott
PS A 3
Sumner, IA

18. Edith Fortman
AG B 3
Ryan, IA

19. Anita Gaplan
IE 4
Winona, MN

20. Kathy Renning
EE 3
Des Moines, IA

21. Amy Sue Martin
MATH 3
Fontanelle, IA

22. Tammy Nordine
P ENG 1
South Elgin, IL

23. Kris Fish
EL ED 1
Algona, IA

24. Sara Thiemann
PHYS 2
Blue Grass, IA

25. Shelly Smith
AER E 3
Bettendorf, IA

26. Amy [illegible]gill
IE 3
Council Bluffs, IA

27. Julie Stromley
MICRO 4
Mason City, IA

28. Victoria Reyher
P EE 3
Davenport, IA

29. Laurie Kintz
CH E 3
Red Oak, IA

30. Tammy Walton
P BUS 1
Chicago, IA

31. Sara Ott
ART GR 3
Charles City, IA

ATTACHMENT
II-L3

ATTACHMENT
II-L4

1:15 - 2:00 **CAREER SESSIONS III** Carver Hall
(Please attend the 3rd number on your name tag)

1.	Aerospace Engineering Cathy Pfeiler, McDonnell-Douglas	Room 150
2.	Agriculture Engineering Mary Ann Dickson, Caterpillar, Inc.	Room 196
4.	Biochemistry/Cell Biology Dr. Nancy Moon Thomes, Pioneer Hi-Bred International, Inc.	Room 244
7.	Chemistry Dr. Jean Lown, 3M Corporation	Room 256
10.	Computer Science Sheryl Wheatley, North American Seed Production	Room 132
13.	Electrical Engineering Sandra Burns, Rockwell-Collins Defense Communication	Room 174
15.	Food Science Colleen Riordan, Billings & Gage Manufacturing Co.	Room 184
18.	Geology Jane Pedrick, Ames Lab & ISU Mining Resources Research	Room 060
20.	Math Kathleen Blankenberg, I.B.M.	Room 274
26.	Metallurgical Engineering Katherine Larsen, Aluminium Co. of America (ALCOA)	Room 124
29.	Physics Joyce Ann Guzik, Ames Laboratory	Room 160
30.	Veterinary Medicine Dr. Cheryl Waterhouse, Altoona Veterinary Hospital	Room 298
31.	Veterinary Medicine Dr. Bianca Zaffarano, Rotating Veterinarian Starch Pet Hospital, Ankeny Central Pets Clinic & Others	Room 232

2:00 - 3:00 **TOURS**
(Gather outside Carver Hall and follow the sign with your tour number. Students - last number on name tag. Adults - number in corner of name tag.)

1.	Chemistry Demonstrations - "Magic Show" SCUM Graduate Students	Room 198
2.	Chimeric Mice Laboratory, Dr. Carol Warner Surface Science Laboratory, Dr. Pat Thiel	A301 Gilman Ames Lab
3.	Nutrition Research, Textiles Department Food Science & Communications Laboratories	McKay Hall
4.	Agronomy Building Sue Jonnigan, Agronomy Grad. Student	Agronomy
5.	Seed Laboratory, Dr. Allen Knapp	Seed Science Center
6.	Food Crops Center, Dr. Lawrence Johnson Food Technology Labs, Dr. Bonnie Glatz & Dr. Pat Murphy	Dairy Science
7.	Meats Lab, Jane Ann Boles Chimeric Mice Lab, Dr. Carol Warner	Kildee Gilman
8.	Plant Biology Labs Dr. Harold McNabb, Dr. Lois Tiffany, Dr. Lois Girton	Bessey Hall
9.	Planetarium, Dr. Lee Ann Willson	39 Physics
10.	Computation Center & Library Linda Hutchinson	Comp. Center
11.	Laser Laboratory, Dr. Gerald Small	Gilman Hall
12.	Salt Water Facilities (MER Lab) Dr. George Brown Endocrinology Lab, Dr. Eugenia Farrar & Jocelyn Hilsebus	Science II
13.	Glass Blowing Demonstration Dr. David Martin	Eng. Annex
14.	Structures Lab, Dr. Max Porter Strength of Materials Dem., Dr. Jack Peterson	Town Eng. ME/ESM
15.	Robotics Laboratory, Dr. John Even Computer Graphics, Dr. Wayne Dowling	Marston Coover
16.	Wind Tunnel, Elmer Baker Nuclear Reactor, Dr. Robert Williams	Town Eng. Sweeney

Retooling Strategies for the Future: Scientific, Technical, and Math Related Careers

A Conference for Adult Women

Join more than 50 professional women who represent science, math and engineering related careers. Share their experiences. Discover how to use your education, transfer your skills, and, if necessary, continue your education to make career transitions or to enter or reenter the job market.

Saturday, March 7, 1987

Objectives

Planned for, but not limited to, women throughout southern Wisconsin, this conference will allow you to:

- explore math, science and engineering related careers
- investigate educational avenues and support services that can help prepare you for these careers
- meet and interact with career women working in technical areas

Who Will Benefit

If you wish to make a career change or enter or reenter the job market, this conference will help you. Whether you have completed high school, technical training, or college, you'll discover the educational resources and support needed to retool for the future.

Features

- Panel of women successfully working in science, technical and math related careers who represent married women with and without children, single mothers, displaced homemakers and single women
- Nine special workshops that deal with how to finance your education, meet the computer challenge, break through math barriers, market your skills, work in male-dominated careers, and more
- More than 50 women representing different professions in nine career areas
- Resource packet and materials from several schools, including information on alternative educational programs

Conference Schedule

8:00 Coffee/Conversation/Registration
The Wisconsin Center
702 Langdon Street
Madison, Wisconsin

After you have registered, take time to survey the career and educational resource materials on display.

8:30 Welcome
Cheri McKently
Conference Co-Director

8:40 "Working in the Future: Challenges and Trends"
Lisa Munro
Assistant Director
Continuing Education Services
UW–Madison

8:50 "Five Blueprints for Success": A Panel Discussion
Lois B. Greenfield (Moderator)
Professor, College of Engineering
UW–Madison

Gloria McCutcheon
Civil Engineer
District Director, Southeast District
Wisconsin Department of Natural Resources

Jenifer Bradley
Development Analyst
The Rural Companies

Jan Wheaton
Senior Student Services Program Manager
College of Agricultural and Life Sciences
UW–Madison

Neon Ringwood
Personal Financial Planner
IDS Financial Services, Inc.

Marjorie Wood
Plumber
UW–Madison Physical Plant

10:10 Break

10:20 Workshop I (see registration form)

11:25 Workshop II

12:30 Luncheon at the Wisconsin Center (included in the registration fee)

1:30 Career Representative I (see registration form)

2:15 Career Representative II

3:00 Career Representative III

3:45 Evaluation/Interaction

4:00 Adjourn

Following the conference, you may visit with other participants for 30 minutes in the resource area.

ATTACHMENT
II-M

Workshops .... Two

You may select 2 workshops. Please indicate your preferences on the registration form. Scheduled times are 10:20-11:15 and 11:25-12:20.

1 **Juggling Roles.** Learn strategies to help you balance multiple roles, including parent, worker, student, and spouse. *Gloria McCutcheon*, Civil Engineer, District Director, Southeast District, Wisconsin Department of Natural Resources.

2 **Breaking Through Math Barriers.** Learn what you can do to approach math classes or other math situations with a more positive attitude and become more successful at learning math. *Monica McCarthy*, General Engineer, Forest Products Laboratory, UW-Madison.

3 **Financing Your Education.** Discover resources to help finance your education. Investigate loans, scholarships, assistantships, work study, engineering co-op programs and more. *Helen Sanborn and Nancy Buechel*, Financial Aids Counselors, UW-Madison.

4 **Going It Alone.** Share the frustrations of being a single parent, while working or retooling. Discover strategies that have worked. Begin now to plan for tomorrow. *Jenifer Bradley*, Development Analyst, The Rural Companies.

5 **Keeping Your Options Open.** Identify your skills, learn how skills transfer across professions and recognize the value of your experiences. *Jackye Thomas*, Counselor, College of Engineering, UW-Madison and *Helen Richardson*, Assistant Director, Engineering Cooperative Education, UW-Madison.

6 **The Computer Challenge.** Explore computers in a microcomputer laboratory. Use this "hands-on" workshop to help you fight techno-phobia. Designed for women with no computer experience. Limited enrollment. *Carol Block*, Information Processing Consultant, Learning Support Services, UW-Madison and *Leslie Peckham*, Associate Director, Business Computing Services, UW-Madison.

7 **Marketing Your Skills.** Discover the value of networking as a tool for marketing your skills. Discuss job search techniques. Review concepts for better interviewing and resume writing. *Sandra Arnn*, Director, Engineering Cooperative Education, UW-Madison and *Nancy Deutsch*, Counselor, Continuing Education Services, UW-Madison.

8 **Risk Taking.** Sometimes making a career change means more than gathering information and finding the time and money. Discuss roadblocks to risk taking. *Cheri McKently*, Counselor, Engineering Professional Development, College of Engineering, UW-Madison and *Jill Nachreiner*, Counselor, Continuing Education Services, UW-Madison.

9 **Working in Male-Dominated Careers.** Find out what it's like to work predominantly with men. Panelists will share strategies for coping and succeeding in a "man's world." *Vivian Bailey* (moderator), *Kate Nolan, CPA, Kristi Conklin*, community educator/firefighter, *Bernice Durand*, physicist.

Career Representatives ....Three

You will have an opportunity to schedule discussions with representatives from three career areas. We suggest you choose two areas you've already thought about and a third area that is a "wild jump," completely new to you. Please indicate your preferences on the registration form. Scheduled times are 1:30-2:10; 2:15-2:55; and 3:00-3:40.

Technical Related

A1 **electrician,** *Karen Grosskrueger*
apprenticeships in skilled trades (construction, industrial, service), *Vivian Bailey*, Employment Options
electronics technician, *Mary Wallace*, Nicolet Instrument Corporation
office machine repair technician, *Aleta Klicko*, Xerox Corporation
auto body estimator, *Julie Penshorn*, Claims Service Office, State Farm Mutual
engineering technician II, *Janice Gibeau*, Wisconsin Department of Transportation
plumber, *Marjorie Wood*, UW-Madison, Physical Plant

Education

B1 **applied physics/astronomy/math instructor,** *Jane Breun*, Madison Area Technical College
science teacher, *Marilyn Hanson*, Memorial High School
math teacher, *Carol Welsch*, Orchard Ridge Middle School

B2 **assistant professor, aerospace studies, aircraft/munitions maintenance,** *Cheryl Batterman*, Air Force ROTC, UW-Madison
senior institutional planner, analysis services, *Cathy Tesar*, UW-System Administration
lecturer (microbiology), undergraduate advisor (sales/research), *Jane Phillips*, College of Agricultural and Life Sciences, UW-Madison

Engineering

C1 **chemical consulting engineer,** *Abigail Cantor*, Strand Associates
electrical engineer, *Paula Traynor*, Wisconsin Power & Light Company
metallurgist, *Virginia Vanark*, Johnson Controls, Inc.

C2 **electrical engineering student (formerly medical technician),** *Bernadette Cassata*, UW-Madison
civil consulting engineer, *Katherine Martin*, RMT, Inc.
engineering mechanics, *Erin Epping*, A. O. Smith, computer software development

Research

D1 **geophysics, seismology student,** *Martha Kane Savage*, UW-Madison
Air Force ROTC cadet and astrophysics student, *Janet Goetzinger*, UW-Madison
physicist, *Evelyn Malkus*, UW-Madison
wildlife microbiologist, *Jessie Price*, National Wildlife Health Center

Computer Related

E1 **computer typesetting and personal computer applications,** *Ora Kasten*, The Typesetter
management information supervisor, *Diane Mann*, Administrative Data Processing, UW-Madison
project administrator, *Sue Howell*, IBM

E2 **programmer/analyst,** *Kathleen Walsh*, Central Life Assurance
programmer/operator, *Lynn Randall*, Central Life Assurance
programmer, *Lorna Knapp*, Central Life Assurance

Business/Math

F1 **actuarial assistant,** *Teri Reddemann*, Central Life Assurance
actuary, *Janet Lee Welshons*, CUNA Mutual Insurance Society
utility rate analyst, *Nancy McGee*, Wisconsin Public Service Commission

F2 **management consultant, CPA,** *Kate Nolan*, Grant Thornton
lead accountant, *Jeanne Jacques O'Malley*, Division of Management Services, Wisconsin Department of Health and Social Services
director of accounting/associate controller, *Deborah Durcan*, UW System

F3 **manager, acquisitions and planning,** *Margo Dixon*, Anaquest

portfolio manager, *Marilyn Holt-Smith,* Vice President, Madison Investment Advisors

trust officer, *Jocelyn Jacobs,* Valley Trust Company

Health Related

G1 **cytotechnologist I,** *Anita Kerr,* State Laboratory of Hygiene, UW-Madison

senior instructional program manager, *Joyce Becker,* Environmental Toxicology Center, UW-Madison

microbiologist, infection control coordinator, *Jean Druckenmiller,* Meriter Hospital

G2 **respiratory therapy supervisor/core faculty member of the Pediatric Pulmonary Center,** *Ellen Becker,* Clinical Sciences Center, UW-Madison

physician assistant/adolescent pregnancy specialist, *Millie Jones,* Division of Health, Wisconsin Department of Health and Social Services

Architecture

H1 **landscape architect,** *Maxine Cannon,* Sanborn Group

senior staff architect, *Emma E. Macari,* Planning and Construction, UW-Madison

architect, *Gene Wells,* Flad & Associates

draftsperson, *Pam La Rue,* Flad & Associates

Technical Communications

I1 **director, University-Industry Research Science Writing Program,** *Jean Lang,* UW-Madison

indexer (science/medical book publishing), *Barbara Littlewood*

technical writing professor, (history of technology research), *Gisela Kutzbach,* UW-Madison

I2 **videographer/editor,** *Wendy Woodard,* WHA-TV

soundperson, *Kerman Eckes,* WHA-TV

program coordinator, "Health-Line Highlights," *Ann Whitaker,* UW-Madison

Acknowledgements: This conference results from the cooperative efforts of the Planning Committee: Joan Brooks, Sandra Courter, Janice Czyscon, Cynthia Goldsmith, Lois Greenfield, Cheri McKently, Jill Nachreiner, Marcia Nettesheim, Sylvia Robertson, Jackye Thomas, and Naomi Walton-Winfield.

General Information

Fee Covers Program materials, reading lists, break refreshments, lunch and certificate of participation.

Accommodations Your enrollment confirmation will include information about Madison hotels and motels, should you decide to stay overnight before and/or after the conference. Please advise us at time of registration if you are handicapped and desire special accommodations. Requests will be kept confidential. **No accommodations for children are available. Please make your own arrangements.**

Location The Wisconsin Center, the corner of Langdon and Lake Streets, Madison, Wisconsin.

Parking Your enrollment confirmation will include a map of Madison and parking information. Parking is often available in the Lake Street and Helen C. White ramps at a nominal fee. However, parking on campus is limited. Please participate in car pools or use public transportation if possible.

Scholarships A few scholarships are available. For more information about these scholarships, contact program co-directors, Cheri McKently 608-262-0133 or Janice Czyscon 608-262-2703 by February 13, 1987.

Registration We require advance registration and confirmation. Registration deadline is February 27, 1987. Mail registration form with $15 to Engineering Registration, the Wisconsin Center, 702 Langdon Street, Madison, WI 53706. If time is short, call the Registration Office, 608-262-1299 or toll free 800-262-6243 (in Wisconsin 800-362-3020). Ask for Engineering Registration.

Our programs are supported, in part, by funds administered through UW-Extension.

Mail to or Call: Engineering Registration, The Wisconsin Center, 702 Langdon Street, Madison, WI 53706, 608-262-1299 or toll free 800-262-6243 (in Wisconsin 800-362-3020).

Enrollment Form

☐ **Yes, I plan to attend Retooling Strategies for the Future: Scientific, Technical, and Math Related Careers, A Conference for Adult Women, March 7, 1987...(.6 CEU) #7595**
WIS R

☐ Enclose Fee: $15 for lunch, break refreshments, and materials.
(Checks payable to UW-Extension) **Registration deadline is February 27, 1987**

Name ____________________

Social Sec. No.* __________ Phone (days) __________

Address ____________________

City __________ State __________ Zip __________

Company, if any, ____________________

For more information, dial the toll free number above, ask for Engineering Information, and request:
Program Co-Directors: Janice Czyscon or Cheri McKently
Program Assistant: Debbie Benell
(Direct phone 608-263-7428)

**Assures prompt enrollment confirmation and an accurate record.*

One, Two, Three: Your Preferences

Select your preferences. Refer to your selection by letter and number (E1). We will make every attempt to schedule you for the workshops and career representatives you choose. We reserve the right to cancel sessions with enrollments of 8 or less.

Two Workshops

Indicate 2 choices in order of preference
1st ______ 2nd ______

Three Career Representatives
Indicate 3 choices in order of preference
1st ______ 2nd ______ 3rd ______

Lunch Selection
For lunch, I would like lasagne ______
or vegetarian lasagne ______

Name ____________________

CHAPTER III

STUDENT SECTIONS

Don't overlook the SWE student sections as areas of career guidance involvement. Although these students have already chosen engineering as a career, they still have questions about life in the "real world". They, also, may not have yet chosen a specific field of engineering. Students sections and member sections can help each other in their career guidance outreach. Students can make presentations to schools and help with organizing and staffing conferences. The member sections can provide speakers for student section meetings and student regional conferences. The more contact you have with the students, the better the chance of the students upgrading to member status after graduation.

Student Section Counselors

A student section liaison should be assigned to each college in your area to act as a counselor and help with career guidance activities. The counselor provides a communication link between the student section and the member section.

Member Section Meetings

Some sections provide subsidies or discounts for students attending member section meetings. This provides the opportunity for students to meet the members and become interested in section activities.

Sister in Industry

You might want to assign one section member to each interested student member to act as a role model - a "Sister in Industry". This is an opportunity for college students to meet with working SWE members and learn what awaits them in the world of work.

Panel Presentation

This format can be incorporated into another program (student meeting or conference) or stand on its own. One successful program was conducted for high school seniors and entry-level college students. The panel was composed of a senior-level college student speaking on "**Expectations of a Graduate Woman Engineer**", a working engineer with less than 3 years experience speaking on "**The Transition from School to Industry**", an experienced woman engineer (10-15 years experience) speaking on "**Winning at the Business Game**", and another SWE member speaking on "**Barriers in the Workplace**".

A Night With Industry

This can be an annual event held at a nearby college. It provides engineering students the opportunity to meet and talk with representatives from many local industries and engineering firms. It can be set up as a cocktail hour / exhibit hour and banquet. In some cases, the host SWE section has been successful at getting several companies to sponsor the event financially.

Seminars on "How to Get a Job"

SWE section members can present a seminar at a local college on such topics as: Writing an Effective Resume, Surviving a Job Interview, Aggressive Job A Hunting. One section hands out brochures on all three topics followed by a wine and cheese reception.

Outstanding SWE Student Award

You could present a certificate to a student from each student section in your area. The Baltimore-Washington SWE section has done this annually with good success. The student can be nominated by her faculty advisor. A banquet could be held at a regular section meeting where each outstanding student is introduced and presented with a certificate.

Student Section Career Guidance Award

You could hold a contest among the SWE student sections in your area for the best career guidance idea. One section awards a cash prize to the student section to be used for the development of a career guidance activity.

CHAPTER IV

SCHOLARSHIPS

Scholarships are a great way to encourage talented women to pursue careers in engineering. Scholarships can be given at many different levels; high school seniors, college students, re-entry. Your section can establish a SWE scholarship within an on-going program, such as Engineer's Week, or you can establish your own scholarship program. It usually depends on the size of your funding raising and volunteer efforts. This chapter of the Ideabook is mostly devoted to the "How To" of establishing your own scholarship program.

Funding

If you are going to sponsor a scholarship, you must first determine where the funds will come from. Your treasury may be able to fund the scholarship or you may need to go to industry to get the money. Some sections agree to name the scholarship after any donor (industry or member) if the donation is at least $500. Thank you letters should be sent to all donors and you may want to invite them to the awards ceremony. A sample thank you letter is included as attachment IV-A. The next chapter, Fund Raising, has specific ideas for getting money.

Soliciting Applications

You can start by contacting your local Engineering Council or NSPE chapter. They often have annual scholarships and would be willing to share the task of selecting students. One section sends a letter with the Engineer's Council scholarship package asking all high schools to submit an application for an outstanding woman student with engineering aspirations. They help on the Engineer's Council to select winners for their program and collect the womens' applications to select additional awards given by their section. You may want to create your own scholarship application and send it directly to the high schools or colleges. A sample letter and application are included as attachments IV-B and IV-C.

Notification of Winners

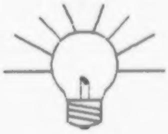
Once you have evaluated the applications and chosen the winners, you need to notify them that they have been chosen to receive your scholarship. Your letter should tell them the amount of the scholarship they are to receive and the designated donor, if there is one. A sample notification letter is shown in attachment IV-D. It is also a courtesy to notify the other applicants that they were not chosen. It can be annoying to send in your application and never again hear from the organization. Remember, all the applicants are potential student members and eventually members. A sample letter is shown in attachment IV-E.

Awards Presentation

You may make the award at the student's school or you may want to invite all of the scholarship recipients to a dinner in their honor. Another option would be to invite the recipients to a formal SWE monthly meeting, where you would present the scholarship and allow them to meet other members of the organization. You could also invite the Certificate of Merit recipients to attend the ceremony.

Follow Up

You may want to send thank you letters to the participating schools with SWE literature such as "**What Are You Doing the Rest of Your Life?**" and "**B.S. Requirements for a Degree in Engineering**". You could also include the scholarship winners on your section newsletter mailing list or invite them to the next year's awards dinner. It is interesting to kept in touch with your scholarship recipients to find out how they do with their academic endeavors.



CHAPTER IV

ATTACHMENTS

Society of Women Engineers

San Francisco Bay Area Section

P.O. Box 61333
Sunnyvale, CA 94088

May 7, 1981

Mr. G. M. Mulhern
Orgn. 24-01 Building 101
Lockheed Missles and Space
P.O. Box 504
1111 Lockheed Way
Sunnyvale, CA 94086

Dear Mr. Mulhern;

On behalf of the Scholarship Committee, I want to thank you and your company for the generous donation of $1,500.00 to the SWE-SFBAS Scholarship Fund.

This money made it possible for us to grant scholarships of $750 each to:

Ms. Mary Ann T. Eusebio
2605 Wakefield Drive
Belmont, CA 94002
(415) 595-1127

Ms. Faye A. Brackett
2407 South Park Lane
Santa Clara, CA 95051
(408) 247-8750

Ms. Eusebio will be an entering freshman at U.C. Berkeley majoring in computer science and electrical engineering. She is a graduate of Mercy High School in Belmont.

Ms. Brackett will be an entering freshman at U.C. San Diego and is also majoring in computer science and electrical engineering. She is a graduate of Wilcox High School in Santa Clara.

You and other company representatives are cordially invited to attend our Scholarship Awards Banquet to be held at the Velvet Turtle Restaurant in San Jose on Tuesday evening, 19 May 1981. Please see the enclosed information for making reservations. We hope that you will be able to attend and look forward to your participation in our awards presentations.

Again, we appreciate your generous support of our scholarship program.

Sincerely yours,

Carolyn F. Jones
Scholarship Committee Chair

Society of Women Engineers
San Francisco Bay Area Section

Society of Women Engineers
San Francisco Bay Area Section
Scholarship Committee
P.O. Box 61333
Sunnyvale CA 94088
November 1982

Dear Sir or Madam:

The San Francisco Bay Area Section of the Society of Women Engineers is soliciting applicants for our 1983 Scholarship Awards. In the past, the existence of these scholarships has not been well known and we want to make them more available to aspiring engineers.

As a science or mathematics instructor we thought that you might know of students who meet our requirements and who would be interested in applying for one of our scholarships. We have enclosed at least one copy of our scholarship application form. If you need more copies, we would appreciate your duplicating the form and giving copies to your interested students.

Please advise your students to read the instruction letter carefully, to return the completed application form promptly and to arrange for transcripts and letters of recommendation. All materials must be received by Friday,4 February 1983 and we cannot give consideration to any applicants with incomplete files.

If you need additional information, please contact the Scholarship Committee at the above address or through our answering service at (408) 733-3697.

We appreciate your support and cooperation.

Yours truly,

Debra Low Morgan

Debra Low Morgan
Chair'n, Scholarship Committee

ATTACHMENT
IV-B

Society of Women Engineers
San Francisco Bay Area Section
P.O. Box 61333, Sunnyvale, CA 94088

SCHOLARSHIP APPLICATION

Type All Information

Name: ______________________________
LAST FIRST MIDDLE

Date: ______________

Phones: ______________ ______________

____

Address: ______________________________

____

Alternate Phones: ______________

____

Alternate: ______________________________

____
(Alternate address where you may be reached)

Contact Name: ______________
(A person who could reach you)

How did you hear about the SWE Scholarship? (School Counselor, Teacher, etc.)

____

Please check as many as apply:

- ______ High School graduate (by end of present academic year)
- ______ Entering College Freshmen (next academic year)
- ______ Continuing College Undergraduate (next academic year)
- ______ Graduate Student (next academic year)
- ______ Re-entry Student (education interrupted by more than 5 years)
- ______ Previous SWE Scholarship Winner (year ________)
- ______ Now Attending (or) ________ Plan To Attend

College/University: ______________________________

Major: ______________________________

Degree: ______________________________
(Do not abbreviate)

Estimated Graduation Date: ______________

FAMILY INFORMATION

Mother's Name: ______________

Mother's Address: ______________

____

Mother's Occupation: ______________

____

Father's Name: ______________

Father's Address: ______________

____

Father's Occupation: ______________

____

Spouse's Name: ______________

Spouse's Address: ______________

____

Spouse's Occupation: ______________

____

FINANCIAL SITUATION

ANTICIPATED ANNUAL EXPENSES

Tuition: ______________

Room & Board: ______________

Transportation: ______________

Books & Supplies: ______________

Clothing: ______________

Misc. Personal: ______________

Other (Specify): ______________

Total Expenses: ______________

ANTICIPATED ANNUAL INCOME

Parents/Spouse: ______________

Loans: ______________

Scholarships (other): ______________

Employment: ______________

Work-Study Program: ______________

Savings: ______________

Other (Specify): ______________

Total Income: ______________

ATTACHMENT
IV-C

ACADEMIC INFORMATION (Please send the Committee your transcript)

High School: ____________________
Address: ____________________
Course of Study: ____________________
Grade Point Average (A = ________): ____________________

List below and on a separate piece of paper, if necessary, your attendance at all colleges or specialty schools other than high school, beginning with the most recent.

Name of School: ____________________
Address: ____________________
Field of Specialization: ____________________
Date Started/Date Finished: ____________________
Grade Point Average (A = ________): ____________________
Academic or Scholastic Honors: ____________________

Name of School: ____________________
Address: ____________________
Field of Specialization: ____________________
Date Started/Date Finished: ____________________
Grade Point Average (A = ________): ____________________
Academic or Scholastic Honors: ____________________

High School/College Activities:

____

Honors/Awards not Listed Above:

____

Community Activities (Volunteer, Church, Civic, Junior Achievement, etc.):

ATTACHMENT
IV-C(2)

EMPLOYMENT HISTORY

List below and on a separate piece of paper, if necessary, all of your employment history for the last 5 years. Begin with your present or most recent position. Include summer and part-time employment. A professional resume will suffice.

Present or Most Recent Employer: ______________________
Address: ______________________
Supervisor: ______________ Phone: ______________
Position: ______________________
Duties: ______________________
____
____
Dates of Employment: ______________________

Previous Employer: ______________________
Address: ______________________
Supervisor: ______________ Phone: ______________
Position: ______________________
Duties: ______________________
____
____
Dates of Employment: ______________________

COMMENTS

Is there anything else that you would like us to know about you?

(Please include special achievements not already covered, hobbies, military service, unusual family circumstances, or any other information which might be useful to us in considering your application.)

Explain why you want to become an engineer or scientist.

Your application will not be complete without 2 letters of recommendation. It is your responsibility to have these letters submitted to the committee. In the space below, list these two personal references, whom you will ask to supply the committee with written comments on your technical, academic, or job-related experience. Math/Science teachers or persons familiar with your science/engineering background are recommended; do not use relatives.

Name Address & Phone

I certify that all of the information furnished on this form is true, complete, and correct to the best of my knowledge. I understand that such information is confidential and subject to verification by the SWE Scholarship Committee.

SIGNATURE

DATE

ATTACHMENT
IV-C(4)

SWE

Society of Women Engineers

San Francisco Bay Area Section

P.O. Box 61333
Sunnyvale, CA 94088

April 30, 1981

Ms. Deborah D. Patton
P.O. Box 36041
San Jose, CA 95158

Dear Ms. Patton;

On behalf of the Scholarship Awards Committee, I wish to congratulate you on being selected as one of our scholarship award recipients. You will be given an award of $1000.00 from a donation made by General Electric Company, Nuclear Energy Business Group.

We plan to honor each scholarship winner with an Award Certificate at our Scholarship Awards Banquet, and to mail the scholarship checks as soon as we have contacted all of the award winners.

You and your family and friends are cordially invited to attend our Scholarship Awards Banquet to be held on Tuesday evening, 19 May 1981 at the Velvet Turtle Restaurant in San Jose. Please see the enclosed information for making reservations. We hope that you will be able to attend.

We will need a recent wallet-sized photograph of you to include in our Scholarship Awards Brochure. We would appreciate your sending us a photograph before the banquet date.

Congratulations, and best wishes for a successful academic year!

Sincerely yours,

Carolyn F. Jones

Carolyn F. Jones
Scholarship Committee Chair

P.O. Box 61333
Sunnyvale, CA 94088

April 30, 1981

Ms. Mercedita Del Rosario
2046 Simon Avenue
San Jose, CA 95122

Dear Mercedita:

We regret that we were unable to give you a monetary scholarship award this year. You have been selected to receive a Certificate of Merit which will be presented to you at your high school award ceremony.

We give you our strongest encouragement to pursue engineering and hope that you will consider applying for a scholarship next year.

We appreciate your interest in the Society of Women Engineers and trust that you will remain in touch with us as your career develops.

Sincerely,

Carolyn F. Jones
Scholarship Committee Chair

ATTACHMENT
IV-E

CHAPTER V

FUND RAISING

Most sections rely on two sources of income beyond the dues rebate - company contributions and membership support. Both are important. Major contributions can be solicited from companies, but you must be able to assure them that your rank and file membership also financially supports your section's programs. Fund raising is usually considered for scholarships or career guidance programs, however, other section activities may benefit from additional funds such as mailing, newsletters, or officer support. Also keep in mind that all donations don't have to be cash. In-kind services can save a section a lot of money. Much of the following information on fund raising was excerpted from the Santa Clara Valley section's Career Guidance Handbook.

Member Contributions

Since national statistics show that individual giving makes up about 85% of total section contributions, this source should not be overlooked. These funds can be donated directly or through United Way. Many members don't know they can specify the recipient of their United Way donation. This is worth checking out for your area, so that any appeal to your membership will include information on how to use payroll deduction systems. You can also raise funds from your membership by charging a little more for dinner meetings, a garage sale, sale of t-shirts or note paper, t-shirt auction, theater party, etc. You are only limited by your imagination.

Company Contributions

Company contributions are accomplished, most directly, with letters sent to companies requesting money for specific programs. Two sample letters are shown in attachment V-A and V-B. In the letter, let the company know what they will receive for their donation. Try to set up different donor categories based on the donation amount. Have a different form of recognition associated with each category. For example, the "Sponsor" category might have their name listed in local SWE publications, while the "Patron" category might have a scholarship awarded in the company name and be mentioned in all press releases. Remember that companies often make substantial contributions of "in-kind" services. This would include time off for employees speaking at schools, reproduction of bulletins or newsletters, mailing and use of equipment or facilities.

Public Relations

Good public relations can make fund raising almost painless. Invite representatives from the companies' Personnel, Human Resources, Community / Public Relations, EEOC departments and executive officers to a cocktail party. Tell them what SWE does and how we do it. Ask for their company support and let them know what they will get for their donation. Make sure to have members there who are conversant with what the section has been doing. It is helpful to have written material available to hand out. This initial contact could develop into as Industrial Advisory Board (IAB) as it did for the Santa Clara Valley section. Their IAB meets at a luncheon every 2 to 3 months with an agenda and discussion period. The agenda provides a status report on current programs and highlights programs requiring support. A letter that was used to introduce the IAB is shown in attachment V-C. Many sections publish an annual report to industry which outlines the section's objectives and areas for industry involvement. You can highlight your past activities, identify any new programs being planned and areas which require industrial support. A sample annual report is included as attachment V-D. Other PR techniques you can use include certificates for companies that donate scholarships, photos or articles for company papers, and a reputation of performance no matter what the size of your section. Remember that you are providing services to industry. You are providing them effective utilization of money donated with little or no administrative costs, an enhanced reputation for the company among SWE members, affirmative action and perhaps a free subscription and reduced advertising rates in the monthly SWE section newsletter.
The most important things to remember when trying to raise money are:

1) IF YOU DON'T ASK,
YOU WON'T GET IT

2) ASK BIG!

Follow Up

No matter where you get the funds, make sure you follow up with feedback and thank you letters. When funds are committed, a letter of thanks is essential. It is not only courteous, but it also acknowledges the check or pledge. The donor then deserves to know how the funds are spent. In the case of a scholarship donation, an invitation to the awards banquet to meet the recipient will be such a positive experience that the job of soliciting funds the next year will be much easier. If personal contact is not possible, a final report, photos or some indication that their money was well spent is crucial for repeat donations. In some cases, certificates, plaques, or some kind of award which provides public recognition is appropriate. Companies do not donate anonymously - they want

recognition !

Mechanics of Fund Raising

The first thing to do is form a good working Funding Committee. Fit its size to the size of your section. It could start as a one person committee and grow as is needed. the Funding Committee should generate fund raising ideas and implement them. Ask your section members for ideas and concentrate on things that the section can easily handle.

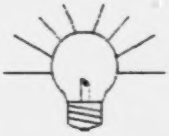
You must start and keep up a resource list. This is a list of companies, foundations, and individuals to contact for money. If someone in you section has a computer, use it to keep the resource list. As the list grows, and it will, a computer is essential. You will need to keep names, addresses, telephone numbers, amount of contribution, date of contribution, and anything else you might consider useful information. Try to keep the list as up-to-date as possible. Read the financial/business section or the local newspaper to find out how the companies are doing financially and who is in charge of what. This will provide you with names for initial company contacts.

The easiest way to start a resource list is to start with the companies where your members work. Sometimes this can be a problem, especially when almost all your members work for the same company. Some other possibilities are the American Electronic Association Directory, the Thomas Register, local Chamber of Commerce, the other professional organizations, and industry contacts.

The most important function of the Funding Committee is to write concise letters asking for funds and thank you letters, including "Sorry you couldn't help this time" letters. Sample letters are included as attachment V-E and V-F. It is very important that Thank you letters be sent promptly. Keep all letters short, one page or less, and be sure to mention SWE's tax exempt status. When in doubt, address material to the company president. Follow up letters with personal phone calls. Ask if you can answer any questions or make an appointment to discuss the section's programs. Many companies will ask for a copy of your budget or how many of your members work for their company. Be prepared with facts and figures. Assign committee members to make the follow-up phone calls. It is easier for eight people to make two calls each than one person to make sixteen.

Access to a word processor is mandatory for large projects. Unless the section can afford to pay for professional work, there is no other way to handle the volume of typing letters and addressing envelopes. Through company support, one section was able to obtain the use of two word processors.

Make a schedule and work to it. The driving factor is, of course, timing of when the money is needed. Fund raising is much easier when you are not rushed for time, and it should really be a year-round effort. The budget cycles of the companies you contact will vary from January to December. Be prepared to devote a lot of time and energy to this effort. It takes a lot of both, especially if the project is large. Keep reviewing your letters and attachments and discuss ways to improve them. Your letters will have to sell your program. Remember, you are offering the companies an opportunity to use SWE's services to meet their goals.



CHAPTER V

ATTACHMENTS

Society of Women Engineers
San Francisco Bay Area Section

Scholarship Committee
P.O. Box 61333
Sunnyvale, CA 94088
December 1, 1981

Mr. Norman J. Gilbertson - Plant Manager
Kaiser Cement Corporation
Permanente Road
Cupertino, CA 95014

Dear Mr. Gilbertson:

The San Francisco Bay Area Section (SFBAS) of the Society of Women Engineers (SWE) is requesting contributions to our 1982 Scholarship Fund.

Last year we gave $23,000 to aspiring engineers. This was made possible by monies generously donated by Santa Clara Valley companies and by efforts of our SFBAS members. This year our goal is to double the fund. We hope you will help us achieve our goal by contributing to the SFBAS-SWE Scholarship Fund. Donations of $500 or more are awarded in the name of the donating company. Lesser amounts are pooled with other donations given in the name of SFBAS-SWE. Scholarships will be awarded in the spring of 1982.

If you have any questions concerning the Scholarship Fund, please feel free to call me.

Contribution checks should be made payable to Society of Women Engineers and sent with the attached form to the above address by February 1, 1982.

Contributions are tax deductible under 501 (c) (3) Internal Revenue Code.

Thank you for your consideration and generous support.

Sincerely yours,

Clara M. Brock

Clara M. Brock
Chair, Scholarship Fund Committee
(408) 742-5412

Attachments:
Contribution Form
Scholarship Fund and Organization Overview
1981 Scholarship Brochure

ATTACHMENT
V-A

We are contributing the following amount to the San Francisco Bay Area Section, Society of Women Engineers Scholarship Fund.

____$5,000	____$3,000	____$1,500
____$ 750	____$ 500	____Other

____ Check enclosed

____ Pledged, please remit by April 1, 1982.

NAME: ______________________________

TITLE: ______________________________

COMPANY: ______________________________

ADDRESS: ______________________________

____

TELEPHONE: ______________________________

Contribution checks should be made payable to Society of Women Engineers and mailed to:

Scholarship Fund Committee, SWE
P.O. Box 61333
Sunnyvale, CA 94088

TINKER ··· TOYS ··· TECHNOLOGY

NATIONAL GIRL SCOUT OPPORTUNITY JULY 2 - 15, 1982

27 April 1982

Dave McCanna, Controller
Plessy Micro Science, Inc.
P.O. Box 220
Mountain View, CA 94042

Tinker...Toys...Technology

Plessy Micro Science, Inc. can make the difference to 11,000 young women and their families by joining with the Girl Scouts and members of the Society of Women Engineers in supporting an intensive hands-on career exploration program in science and technology. By so doing you will help ensure a future supply of engineers and other technically oriented professionals.

Tinker...Toys...Technology, (T3) a unique pilot program is described in the attached material. On-going programs of both the Girl Scouts and the Society of Women Engineers require that this special program be supported by separate funding. This program is currently being planned and some phases are ready for implementation.

Please take the time to review the program information and determine your participation. Checks should be made payable to Santa Clara County Girl Scout Council, T3. (All contributions are tax deductible, under 501 (C) (3) Internal Revenue Code.)

If you have any questions please contact me or Sharon Hunt (408) 287-4170.

It is critical that we have your support of this program -- a program which will encourage young women to view science and technology as viable career choices.

Very truly yours,

Clara Brock

Clara Brock
Lockheed Missiles & Space Co., Inc.
(408) 742-4967

Attachments:
- T3 Projected Budget
- Program Overview
- Calendar of Events

sponsored by

GIRL SCOUTS

SANTA CLARA COUNTY GIRL SCOUT COUNCIL
1543 PARKMOOR PLAZA
P.O. BOX 28527
SAN JOSE, CA 95159

SWE

SOCIETY OF WOMEN ENGINEERS
SAN FRANCISCO BAY AREA SECTION
P.O. BOX 61333
SUNNYVALE, CA 94088

ATTACHMENT
V-B

SWE
Society of Women Engineers
San Francisco Bay Area Section

January 5, 1981

Dear EEO Coordinator:

The San Francisco Bay Area Section of the Society of Women Engineers, in order to accomplish its major objective of informing young women, their parents, counselors and the general public of the qualifications and achievements of women engineers and the opportunities open to them, is in the process of reactivating the S.W.E. Industrial Advisory Board.

The need for counsel from Industry is crucial to our success in this endeavor. We have mutual goals with Industry, and much to gain from one another.

Our 1981 Kickoff Meeting will be held at Lockheed Missiles and Space Company, on Tuesday, February 3, 1981, at 10:00 A.M., in Building 560, Room 117.

TRAVEL DIRECTIONS:

From 101 North, go North on Mathilda, the Sunnyvale Sheraton is on the right - pass the Pacific Telephone Company, turn right immediately into parking lot of Building 560 (1184 North Mathilda Avenue) - this is marked "Employment".

From South on 101, take Hwy 237 cutoff towards Milpitas-Alviso, turn left onto Mathilda, and follow same directions as above into parking lot of the "Employment" building.

Sincerely,

Mary Rogers

Mary Rogers, Vice President
Career Guidance & Scholarships
San Francisco Bay Area Section, SWE

ATTACHMENT
V-C

SOCIETY OF WOMEN ENGINEERS
LOS ANGELES SECTION

ANNUAL REPORT
JULY 1982 - JUNE 1983

ATTACHMENT
V-D

ESTABLISHING A PERMANENT OFFICE

One of the section's main goals for 1983-84 is to establish a permanent office location. It is felt that a permanent office will help improve the professional image of the section, streamline day-to-day operations and meetings, and serve as a growth center for regionalization and formation of new sections. We hope to find an office in a building with several other engineering societies, and are cooperating with LACES in the search.

The section is looking forward with eager anticipation to the office as it will give us a center for newsletter publication, telephone answering service, section archives, and an always available meeting place. It is felt that such a step is necessary to permit the section to continue its rapid growth and strong presence in the engineering community. Section funds derived from the hosting of the 1981 National Convention have been reserved to cover the operating expenses of the new offices, but donations of furnishings and office equipment are being sought. Immediate needs are a personal computer and letter quality printer, typewriter, phone answering machine, and furniture.

GENERAL ACTIVITIES

The Los Angeles Section marked several milestones in the year 1982-83. The section bylaws written for our incorporation were reviewed and approved by the legal counsel for the Society.

Newsletter and program activities continued to function smoothly. Advertising income from the newsletter continues to increase, and we plan to put the newsletter on a break-even budget within the next two years. The monthly dinner and speaker meetings continue to be well attended. One of our most successful programs was a joint meeting with the Association of Women in Geoscience in June. We plan to have one or two joint meetings with other technical societies this year.

The Los Angeles Section also has been active in a western coalition of SWE sections. This coalition was started as an information exchange and to facilitate the proposed society transition to a regional structure.

To support ongoing programs and initiate new programs, the following needs have been identified:

OFFICE
- Table and chairs
- Personal computer
- Letter quality printer
- Filing cabinets
- Phone answering machine

CAREER GUIDANCE
- Slide program for high school students
- Certificate of Merit
- Panel discussion on engineering disciplines
- Joint programs with Girl Scouts
- Student section awards
- Support for Student Regional Conference
- Film duplication for USC Student Section
- Two slide projectors

PROFESSIONAL DEVELOPMENT
- Exhibit booth for career development fairs and conventions
- Professional Development Seminar

SCHOLARSHIP
- Contribution to scholarship fund
- Support publicity campaign for scholarships

GENERAL
- Newsletter advertisements
- Support of officers and members

If you wish to contribute to any of these efforts please contact:

Catherine Van De Rostyne
1540 Mathews Ave.
Manhattan Beach, CA 90266
h (213) 374-2583
w (714) 975-4593

Karen Cagle
3856 Marron Ave.
Long Beach, CA 90807
h (213) 424-9668
w (213) 615-5193

ATTACHMENT
V-D(2)

ATTACHMENT
V-D(3)

SOCIETY OF WOMEN ENGINEERS
LOS ANGELES SECTION

1982-1983 FINANCIAL REPORT

INCOME/EXPENSE BREAKDOWN

CATEGORY	DIRECT INCOME	DIRECT EXPENSE	NET GAIN/LOSS
Career Guidance		(294.49)	(294.49)
Newsletter	675.00	(1,844.73)	(1,169.73)
Programs	1,105.25	(1,068.73)	36.52
Geosecs (Regional Programs)	3,440.23	(4,312.09)	(871.86)
Professional Development		(253.00)	(253.00)
Scholarship/Student Sections	6,000.00	(4,353.04)	1,646.96
Western Coalition	320.97	(703.47)	(382 50)
30th Anniversary	5,375.00	(5,898.67)	(523.67)
Operating/General	4,184.56	(1,447.81)	2,736.75
TOTAL	$21,101.01	($20,176.03)	924.98

FINAL BALANCES:

CATEGORY	NET GAIN/LOSS	CARRYOVER FROM '82-'83	FINAL BALANCE
Career Guidance	(294.49)		(294.49)
Newsletter	(1,169.73)		(1,169.73)
Programs	36.52		36.52
Geosecs (Regional Programs)	(871.86)		(871.86)
Professional Development	(253.00)		(253.00)
Scholarship/Student Sections	1,646.96	7,247.45	8,894.41
Western Coalition	(382.50)		(382.50)
30th Anniversary	(523.67)		(523.67)
Operating/General	2.736.75	5,381.44	8,118.19
TOTAL	$924.98	$12,628.89	$13,553.87

THIRTIETH ANNIVERSARY CELEBRATION

The glittering highlight of 1982-83 was the 30th anniversary celebration of the section. A formal dinner, at the Sheraton Plaza la Reina, was well attended by members and representatives from many local industries. The theme of the evening was "Engineering: A Woman's Place." The keynote speaker, Midge Costanza, former assistant to the president during the Carter administration, kept everyone interested and laughing. Carol Schamp (TRW), a past section president, reviewed our past accomplishments and section history. We were honored by the gracious presence of Evelyn Murray-Lenthall, the society president. The next celebration will come at the 35 year mark in 1988, and an extensive procedure book was compiled for members who will organize that event.

SCHOLARSHIPS AND STUDENT SECTIONS

The Los Angeles Section has an ongoing scholarship program that reaches out to 15 area universities and colleges. Every year, 6 to 10 scholarships are awarded to local students. The funds are contributed by many local industries and faithful SWE members. Donations to the scholarship fund are always welcome. Next year we hope to step up the publicity in the search procedure in order to increase students awareness of our resources.

Student Liaison Chair Marilee Wheaton (Aerospace Corporation) coordinates activities with the 13 local SWE student sections. The student sections function on an autonomous basis, but we keep them informed with newsletters, host an occasional pizza party, provide counselors and advice, and offer half-price admission to all section meetings.

National and regional input is provided by Student Region VI Coordinator, Sharon Cascadden (Hughes Aircraft Company).

CAREER GUIDANCE

Career guidance includes activities which inform and encourage young women, counselors, teachers, parents, and reentry women about the opportunities available through engineering. Career guidance has always been an important focal point for the Los Angeles Section, and last year was no exception. Speaker requests were coordinated for all audience levels from grade school through college and the professional level. The Certificate of Merit, recognizing high school juniors for excellence in math and science, was awarded at many area high schools. To cope with the increasing level of activity, three co-chairs from Los Angeles (Sue Robinson, Johns-Manville Sales Corporation) Ventura (Anne Follette) and Orange (Laurel Gran, Hewlett - Packard Co.) Counties ran the career guidance committee. Margaret Bliss (J. M. Montgomery Consultants) compiled the final career guidance report for the entire Los Angeles Section.

A busy year is planned by the 1983-84 committee. Deborah Kaylo (Bechtel Corporation) is chairing the Career Guidance Committee and is coordinating Los Angeles County activities. Anne Follette and Janice Freund (Fluor Engineers Inc) are coordinating activities for Ventura and Orange Counties, respectively. Plans for the year include preparing a comprehensive slide program on engineering careers for presentation to high school students. A similar effort will be directed at panel discussions and an accompanying booklet to help college sophomores and freshmen choose a major among the various engineering disciplines. We would like to acquire two slide projectors to help the high school and college presentations go smoothly.

The Certificate of Merit program will also be continued. The Los Angeles Section, through this program, offers a certificate which allows the recipient to show achievements when applying for college.

Other programs being considered by the Career Guidance Committee are:

-Joint programs with local Girl Scouts to acquaint the girls with technology

-Big Sister program for engineering students at California State University at Long Beach

-Awards to student sections of local colleges for increased membership and new engineering programs

Our goal for the year is to once again win one of the three national awards for excellence in career guidance.

PROFESSIONAL DEVELOPMENT

The Professional Development Committee is chaired this year by Cynthia Lebel (Jet Propulsion Laboratories). While many of the section activities are student-oriented, this committee focuses on answering the needs of our professional members.

Three major activities are planned for the 1983-84 year. The first is cosponsoring the Women in Business in the West Conference, October 26 through 28. This conference is sponsored by the University of Southern California and the Small Business Administration. The theme of the conference is "Taking the Initiative" for both the woman manager and the entrepreneur. As cosponsors, the Los Angeles Section will have a booth in the exhibition area to help publicize the event to women professionals in the Los Angeles area.

March has been selected as the month for a professional development seminar. We have found that such section-sponsored seminars serve the dual purpose of helping our younger members while encouraging our more experienced members to share their insights. The theme for the 1984 seminar is "Women Advancing." The San Diego and the Northern California SWE sections will also be invited to this seminar. Industry support to help defray expenses, especially of students, is always welcome.

A short half-day workshop on time management is also tentatively planned for late May or early June.

AWARDS

In 1983, the Los Angeles Section continued a long-standing tradition with the receipt of national and local honors for three of its members. Loring Nicholson (retired, Douglas Aircraft Co.) and Ada Pressman (Bechtel Power Corporation) were elected to Fellow Grade in SWE. Selection to this highest grade of membership recognizes outstanding service to the engineering profession and the goals of the society. At the local level, Janet Shultz (Hughes Aircraft Company) was awarded the member grade of Fellow in the Los Angeles based Institute for the Advancement of Engineering. This honor was conferred in recognition of her outstanding contribution to the advancement of the engineering profession.

The section as a whole won membership (most new members) and career guidance awards at the annual convention.

ATTACHMENT
V-D(4)

SAMPLE

Thank You / Confirmation Letter
(T^3 letterhead)

(date)

(name)

(business address)

Dear (name),

I appreciated the opportunity to meet you and present the T^3 program. The support of firms like (company name) is crucial to the success of T^3. Your (donation/pledge) of (name $ amount or in-kind contibution, be specific) (on/by) (date contribution is to be delivered) will provide (name a specific need if possible) which is essential for the realization of our goal.

Please sign the attached copy of this letter as confirmation, and return to the sponsorship chair: Ms. Clara Brock, 19930 Oakmont Drive, Los Gatos, Ca., 95030.

Make checks payable to the Santa Clara County Girl Scout Council, memo T^3 and mail to P.O. Box 28572, San Jose, Ca. 95159.

Sincerely,

(signature)

(name)

(address and phone)

Confirmation ________________

Date _____

(Note:this format should be adapted for your particular needs.)

ATTACHMENT
V-E

SAMPLE

Thank You/No Donation
(T^3 letterhead)

(date)

(name)

(business address)

Dear (name),

Thank you again for the opportunity to meet you and present the T^3 program. I regret (company name) will not be able to actively support this program at this time. I appreciate your interest.

Sincerely,

(signature)

(name)

(address and phone)

(Note: this format should be adapted to your particular needs.)

CHAPTER VI

NATIONAL COMMITTEE

Most SWE members aren't familiar with the oganization of the National Career Guidance Committee. To start with the career guidance chairperson is appointed by the SWE Board of Directors. The name, address and phone number of the current career guidance chair is available from headquarters or on the officer listing sent to all presidents and section reps. After the board of directors approves her appointment, she then needs volunteers to carry out the activities of the national committee. If you or a member of your section is interested in working on the career guidance national committee, a volunteer form is provided as attachment VI-A. If you have suggestions or programs you think would add to future editions of the Ideabook, please submit them on the form included as attachment VI-B.

NATIONAL COMMITTEE ACTIVITIES

ISEF

The International Science and Engineering Fair (ISEF) is given in various locations in the USA each year. SWE provides three senior members to act as judges for the SWE award to the outstanding female entry in engineering. A committee person, usually a member of the nearest section to that year's fair, is needed to recruit and coordinate the judges, present the award, arrange for photographs and write a follow-up article for USWE.

Career Guidance Reference Subcommittee

This subcommittee has the responsibility for updating and maintaining this Ideabook. Programs are reviewed from section annual reports, corning award entries and other organizations for inclusion in the Ideabook. The audio/visual and publications order forms are periodically reviewed and updated to keep them current. Updated materials are sent to the section representatives or section presidents to pass on to the career guidance chair.

Publications Research Subcommittee

This subcommittee has the responsibility to identify needs for new SWE publications and initiate action to develop it. They work closely with the Reference Subcommittee and the SWE National Publications Committee.

Convention Coordination Subcommittee

This subcommittee makes all the arrangements with the Convention Program Chair for meetings, workshops and audio/visual and written material displays. The subcommittee may also solicit speakers for workshops and poll the membership to evaluate what they want at the convention.

Career Guidance Award Judging

This activity requires the most volunteers for a short time. Judges are usually needed for 2-3 weeks in May or June to choose the award winners prior to the convention. Judges are needed for member section annual career guidance reports and the member and students categories of the Corning Glass incentive awards, scribe awards and audio/visual awards. Descriptions of the entry requirements for each of these awards are given later in this chapter.

ANNUAL CAREER GUIDANCE REPORT

In the Fall of each year, an awards packet is sent to every section. This packet contains the current descriptions and forms for all national awards, including the career guidance awards. If you haven't received these forms from your section representative or president by October you should ask her for them. The forms have dates on the bottom to determine what year they are for. New forms should used to update attachment VI-C of this Ideabook.

Awards

The career guidance annual program awards are based on the best overall career guidance program . The judges will take into account the number of programs, the balance of the audiences reached, the quality of contact and the number of members involved. There will be a first place winner and runner-up in each of the following categories:

1. Sections with 50 members or less,
2. Sections with 51to 150 members,
3. Sections with 151 members or more.

The first place awards will be $50 and a plaque. Runners-up will receive a certificate.

Deadlines

The deadline for receipt of the career guidance annual report by the career guidance chair is May 15. This deadline may only be extended, on a case by case basis, by the career guidance chair. This deadline is necessary to allow the judges adequate time evaluate the reports and choose the winners prior to convention. Compiling the report can be more time consuming than you imagined. Start the task well in advance of the deadline and delegate sections to other committee members.

Section I-General Information

This section should be self-explanatory. Item D-National Career Guidance Committee Volunteer is another place where you or a member of your section can volunteer to serve on the national committee the following year.

Section II-Basic Program

This section seems to be the most misunderstood when preparing the annual reports. The basic program includes the activities that are the core of SWE career guidance programs. Each subsection is judged separately based on the information provided on the summary form only.

A. **Science Fair** - summarize your judging activity on the summary form. Do not submit an activity form for time spent judging. The number of awards given and the total cash value of the awards are entered on the summary form. A Basic Program Activity form should be filled out to list the names of the section members that were judges and the names of the fair(s). An activity form should only be filled out to report hours if your section participated in or held an awards ceremony for the science fair winners or served on the science fair planning committee.

B. **Certificate of Merit** - The number of the schools contacted, number of schools participating, the number of certificates awarded and the number of certificates presented in person are summarized on the summary form. A Basic Program Description form should be attached to explain how the schools were contacted and list the names (only) of the members who presented certificates in person. Do not list the schools or attach copies of letters , certificates, etc. There should not be any individual contact forms submitted for this program. An activity may be attached to report hours involved in activities other than soliciting or presenting certificates, such as career day for award winners.

C. **Speakers' Bureau** - Summarize all the individual speaking engagements into the appropriate age category. Only included the single speaking engagements that are not reported as part of an outreach activity. Many of the outreach activities are filled through the speakers' bureau publicity but are reported in the next section. Attach a Basic Program Description form to describe how you solicit your speaking engagements and to list the participating members. Do not list the speaking engagements or submit individual contact forms. Attach an Activity form to report hours involved with an activity related to speakers' bureau but not included in the summary form, such as speaker training workshop.

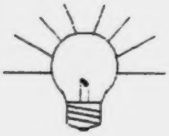
Section III-Outreach Activities

Here is where you submit all additional, non-basic activities. An activity form should briefly describe the program and summarize all the members' time devoted to that particular activity. Do not attach Individual Contact forms. They are provided only for the convenience of the section career guidance chair as a tool to keep track of her volunteers hours and activities. They are not to be included in the annual report as back-up data.

Another comment about "back-up" material. The judges get tired of wading through extraneous pages of attachments. Consider that there are a number reports that have to be judged in a short time. The reports are not judged by weight, however, there are a certain number of points reserved for the subjective category - general impression. These points can work for you for a neat, concise report or against you for a sloppy or padded report. I suggest you carefully evaluate whether an attachment significantly adds information to the report that cannot be summarized on the activity form. It is not significant to include copies of news articles or programs that briefly mentions the section or individual(s). Also, do not submit activities that are really Professional Development programs, such as meeting that were attended by students but not specifically targeted to them.

Section IV- National/Regional Activities

This section is where any national or regional career guidance committee work is reported.



OTHER NATIONAL AWARDS

Member Sections-Corning Glass Incentive Grant

The purpose of these grants is to reward the sections which contribute to the Society the best new tool or program for career guidance in each of the four primary target areas:

1. Elementary School,
2. Junior High/Middle School,
3. High School,
4. College/ Re-entry.

Each award is $125, of which 75% is to be put back into the program for updating and/or implementation.

The Corning Glass Works Incentive Grant form (attachment VI-D) must be completed and received by the National Career Guidance chair by May 15.

Selection will be based on the following guidelines:

1. The tool of the program may take any form (audio/visual, booklet, classroom programs, etc.), but it must be complete and ready for use by other sections needing at most minor geographic specifics changed.

2. Existing material may be incorporated into the program, but the result must be an original adaptation , new to SWE.

3. The winning entry will be of an educational nature and contribute to Corning's goal; to educate children about careers at an early enough age that their high school math and science choices will keep open the option to major in engineering.

4. Outside sources of funds may be used for development; however, subsequent use and distribution must recognize the entry as "Recipient of the (year) Corning Glass Works Incentive Award".

5. Each entry must include two statements: a) How the tool or program has been used to date, and b) How 75% of the grant money will be put back into the program.

6. A section may submit more than one entry; however, no entry may be submitted more than twice (two separate years) unless the content has been substantially changed.

7. The Corning award form must accompany each entry; one copy of each audio/visual entry or five copies of each written entry must be submitted. All copies become the property of the Society without restriction on use. Copyright and other similar privileges remain with the originating section.

8. The section which receives the award will be required to submit a report postmarked by April 15 of the following year, explaining how the grant money was used. This report will be sent to the National Career Guidance chair and to Corning Glass Works describing in what manner the money was spent and what groups benefited from the program.

Student Sections-Corning Glass Incentive Grants

The purpose of this grant is to reward student sections for overall efforts in educating pre-college students about engineering opportunities.
There are First, Second, and Third awards for $250, $100 and $50 respectively.
The awards will be based on the amount of student member contact with the students as well as the quality of that contact. Judging will be based on descriptions of appropriate Career Guidance activities submitted on the Student Corning award form (attachment VI-E). These forms must be received by the National Career Guidance chair by May 1.
Each student section which receives an award will be required to submit a report, postmarked by April 15th of the following year, explaining how the grant was used. This report will be submitted to SWE headquarters describing in what manner the money was spent and what groups benefited from the program.

Member Sections-Scribe Award

This award may be given for an outstanding career guidance publication, developed by a section or MAL, that is of use to the Society as a whole.
The award is $50 plus $25 in career guidance materials. The Society will pay to have the entry duplicated for its library.
Entries must be received by the National Career Guidance chair by April 1 to be considered in that year.

Student Sections-Scribe Award

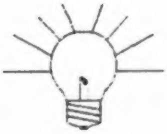
This award may be given for the best written career guidance material developed by a student section and suitable for use by all student sections.
The award is $75 and a plaque.
Entries must be received by the National Career Guidance chair by May 1.

Member Sections-Audio/Visual Award

This award may be given for outstanding career guidance audio/visual material, developed by a section or MAL, that is of use to the Society as a whole.
The award is $50 plus $25 in career guidance materials. The Society will pay to have the entry duplicated for its library.
Entries must be received by the National Career Guidance chair by April 1 to be considered in that year.

Student Sections-Audio/Visual Award

This award may be given for the best audio/visual career guidance program developed by a student section suitable for use by all student sections.
The award is $75 and a plaque.
Entries must be received by the National Career Guidance chair by May 1.



RESOURCES AVAILABLE

The following pages are the listings of the materials available for purchase or loan from headquarters along with the current order forms.

PUBLICATIONS ORDER FORM

Available in Quantities Listed
from SWE Headquarters
345 East 47th Street
New York, NY 10017
(212) 705 7855

			Quantity	Amount
FACTS-	Three brochures in one - Why You Should Join SWE; Facts About SWE; SWE Scholarship Program. 12 pages, saddle stitched.			
	Green enameled cover, heavy stock.	$0.50/single copy		
		$20.00/ 50 copies		
	Off-set, light green stock.	$0.25/ single copy		
		$10.00/ 50 copies		
FACTS-	Facts About SWE. Updated copy of original publication			
	C-fold Flyer	$4.00/ 50 copies		
WOMEN IN ENGINEERING-	NEW ! Women engineers from various disciplines explain engineering and what it takes to become an engineer. Text with photographs.			
	C-fold flyer	$4.50/ 50 copies		
HIGH SCHOOL PREPARATION FOR A BACHELOR OF SCIENCE DEGREE IN ENGINEERING-	What is engineering; educational tools needed; outline of general High School course work and general college freshman course work; college entrance requirements; types of engineering by discipline.			
	C-fold flyer	$4.50/ 50 copies		
WHAT ARE YOU DOING THE REST OF YOUR LIFE?-	Is engineering for you? College entrance requirements; what engineers do according to disciplines; the overlap of engineering disciplines.			
	4 page brochure, 8 1/2 X 11	$4.50/ 50 copies		

Sub-Total Page 1 ______
(Carry to page 4)

Quantity **Amount**

SWE SCHOLARSHIP PROGRAM- A complete listing of all scholarships available from the Society of Women Engineers according to educational level; a description of each scholarship, qualifying requirements, and amount.

C-fold flyer $4.50/ 50 copies ____ _____

WOMENGINEER- Highlights include what is engineering; what kind of girl becomes an engineer; what it's like to be a student in engineering; how do you enter a college of engineering; what's it like to be an engineer? Illustrations with photographs.

16 page booklet, saddle stitched $0.50/ single copy ____ _____

REENTRY- Engineering and engineering technology as reentry careers. A reprint of the newsletter of The Woman's Reentry Consortium. Photographs, bibliography.

4 page brochure, 8 1/2 X 11 $10.00/ 100 copies ____ _____

DISTINGUISHED NEW ENGINEERS- What is a Distinguished New Engineer? Photographs, biographical information, points of view of practicing engineers selected by the Society to receive this outstanding award; 1979-1986

12 page brochure. Being revised. Back orders only. ____ _____

WOMEN ENGINEERS AS ENTREPRENEURS- Breif interviews; personal statements; biographical information; photographs.

4 page brochure, 8 1/2 X 11 $3.50/ 50 copies ____ _____

A PROFILE OF THE WOMAN ENGINEER 1984- A biennial report based on data obtained by SWE surveying its members. Statistics, graphs, and charts pertaining to educational level and degree fields, employment, salary, and general characteristics.

16 pages, 8 1/2 X 11, saddle stitched. Member price $5.00____ _____
Non-Member price $10.00____ _____

Sub-Total page 2_____
(Carry to page 4)

Quantity Amount

BETSY AND ROBBIE- Betsy discovers engineering and meets Robbie the Robot. A children's book on engineering for ages 10-12. Written by Cay Posey. Designed/ Illustrated by Sue Hall.

22 pages, 6 X 9, saddle stitched. $2.50 each ____ ____

WOMEN IN ENGINEERING- Engineering Manpower Commission Bulletin 76, August 1985. Statistics and charts pertaining to enrollments, graduates, salaries, employment activity by job function, mobility, labor force participation.

4 pages, 8 1/2 X 11 $2.00/ single copy ____ ____
$15.00/ 10 copies ____ ____

UPWARD MOBILITY AND PROFESSIONAL DEVELOPMENT FOR WOMEN ENGINEERS- A discussion of "how to", why and where, suggested course of professional develpment.

100 page book, 8 1/2 X 11. Single copy. Free. ____ -0-

LILLIAN GILBRETH DAY COVER- First Day of Issue Gilbreth stamp on 6 1/2 X 3 1/2 envelope with artist's portrait of Dr. Gilbreth. Postmarked Montclair, NJ, Feb 24 1984. Beautifully produced by the Mead Corporation to benefit the SWE Scholarship Program. $5.00 each ____ ____

Sub-Total Page 3 ____
(Carry to Page 4)

TO ORDER THE FOLLOWING PLEASE SEND YOUR ORDER AS DIRECTED BELOW:

TERRY'S TRIP-A coloring book for ages 4-9. 30 pages, 8 1/2 X 11. $1.50 each

Send order directly to: Anne O'Keefe
137 Colberg Avenue
Roslindale, MA 02131 (617)323-6515

INTERVIEWING & EMPLOYMENT CONCERNS OF WOMEN ENGINEERING STUDENTS-

24 page booklet, published by the Purdue SWE Student Section $1.00 per copy

Send order directly to: Society of Women Engineers Student Section
Purdue University
IDE Bldg., Room 4
West Lafayette, IN 47904

If you have any questions about the items specified on this form, including Bulk Orders, please contact SWE's Mailroom Supervisor, Frank Branciforti. (212) 705-7855.

Unless otherwise indicated, all materials will be shipped Third Class or Parcel Post.

( ) FIRST CLASS - Additional Postage will be billed.

Page 1 Sub-Total	______
Page 2 Sub-Total	______
Page 3 Sub-Total	______
For Quantity Orders, Include Postage & Handling	______
TOTAL AMOUNT DUE	$______
CHECK IS ENCLOSED	(______)

SEND ORDER TO:

Name:______________________
(Please Print)

Address:______________________

____

____
(Zip Code)

SEND INVOICE TO (______)

Name:______________________
(Please Print)

Address:______________________

____

____
(Zip Code)

INDEX

CODE #	MEDIUM	TITLE	COPIES
013	Book	The Sky's The Limit	1
010	Catalog	216 Resources for Educational Equity	2
009	Catalog	Resources For Working Women 1983	2
002	Film Strip & Audio Cassette	Solving Problems: Engineers At Work	2
001	Slides & Audio Cassette	Engineering. Skills and Career Planning. A Model Program	2
003	Slides & Audio Cassette	It's Just A New Day. Career Opportunities For Young Women	1
012	Slides & Audio Cassette	Women In Engineering	1
005	Slides & Script	Boston University High School Outreach Program	1
011	Slides & Script	Careers In Engineering	2
004	Slides & Script	Junior High Outreach	1
008	Slides Only	Careers In Engineering	1
014	Video Cassette	Engineering: Careers For Women	1
007	Video Cassette	Math-Science Playhouse Project	1

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A) BY CODE NUMBER

CODE #	TITLE	MEDIUM	COPIES
001	Engineering. Skills and Career Planning. A Model Program	Slides	2
002	Solving Problems: Engineers At Work	Film strip	2
003	It's Just A New Day Career Opportunities For Young Women	Slides	1
004	Junior High Outreach	Slides	1
005	Boston University High School Outreach Program	Slides	1
007	Math-Science Playhouse Project	Video	1
008	Careers In Engineering	Slides	1
009	Resources For Working Women 1983	Catalog	2
010	216 Resources For Working Women 1983	Catalog	2
011	Careers In Engineering	Slides	2
012	Women In Engineering	Slides	1
013	The Sky's The Limit	Book	1
014	Engineering: Careers for Women	Video	1

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B) ALPHABETICAL

CODE #	TITLE	MEDIUM	COPIES
010	216 Resources for Educational Equity	Catalog	2
005	Boston University High School Outreach Program	Slides	1
008	Careers In Engineering	Slides	1
011	Careers In Engineering	Slides	2
014	Engineering: Careers For Women	Video	1
001	Engineering, Skills and Career Planning, A Model Program	Slides	2
003	It's Just A New Day Career Opportunities For Young Women	Slides	1
004	Junior High Outreach	Slides	1
007	Math-Science Playhouse Project	Video	1
009	Resources For Working Women	Catalog	2
002	Solving Problems: Engineers At Work	Film Strip	2
013	The Sky's The Limit	Book	1
012	Women In Engineering	Slides	1

AUDIO-VISUAL ORDER FORM

CODE#	TITLE	MEDIUM	DATE REQUIRED
001	Engineering. Skills and Career Planning. A Model Program	Slides	
002	Solving Problems: Engineers at Work	Film Strip	
003	It's Just A New Day Career Opportunities For Young Women	Slides	
004	Junior High Outreach	Slides	
005	Boston University High School Outreach Program	Slides	
007	Math-Science Playhouse Project	Video	
008	Careers In Engineering	Slides	
009	Resources For Working Women 1983	Catalog	
010	216 Resources For Educational Equity	Catalog	
011	Careers In Engineering	Slides	
012	Women In Engineering	Slides	
013	The Sky's The Limit	Book	
014	Engineering: Careers For Women	Video	

SEND ORDER TO:

Name ....

Address ....

................**Zip**.......

( ) Check Enclosed
( ) Send Invoice To:

Name ....

Address ....

.................**Zip**......

Mail to: SOCIETY OF WOMEN ENGINEERS
United Engineering Center, Room 305
345 East 47th Street
New York, NY 10017

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

ENGINEERING.SKILLS AND CAREER PLANNING
A MODEL PROGRAM

CONTENTS:

112 SLIDES.
audio cassette - duration 15 minutes.
audible and inaudible advance
female narrator.
script
handbook - "Putting It All Together"

AIMED AT:

students considering applying to university/college

SUBJECT:

The slide and cassette show explores the problems women face on entering engineering. They often have had no encouragement to develop manual skills and are unused to handling tools or technical equipment. A project was set up at Purdue University to overcome this handicap. Here women are taught how to use tools and equipment, are provided with role models in engineering, and explore the different openings in engineering. It also gives some insight into university life.

The accompanying handbook, "Putting It All Together", explains the set up of the project and its outcome.

PRODUCED BY:

Department of Freshman Engineering, Purdue University,
West Lafayette, Indiana
Women's Educational Equity Program
US Dept of Ed

Code # 001

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

SOLVING PROBLEMS: ENGINEERS AT WORK

CONTENTS:

film strip - 46 frames
audio cassette - duration 10 minutes
    audible and inaudible advance
    female narrator
leaders guide, with script
set of cards 11" X 9"
activity pads

AIMED AT:

13/14 age group

SUBJECT:

The film strip and audio cassette features a disco and points out how everything there is made possible by the work of engineers. It presents a simplified breakdown of the different fields within engineering.

The bulk of the program consists of 17 sets of cards that deal in dept with the more common fields of engineering. Each set of four cards consists of an Overview Card, Interview Card, Problem Card and Project Card. This final card suggests extension activities - field trips, science projects and the like.

The activity pads provide simple "brain teaser" problems designed to give an insight into some of the skills and techniques necessary for problem solving and provide the leader with the opportunities for discussion on the nature and importance of problem solving.

PRODUCED BY:

Bell System. (c) AT&T

DEVELOPED BY:

Curriculum Concepts Inc.

CODE #002

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

IT'S JUST A NEW DAY
CAREER OPPORTUNITIES FOR YOUNG WOMEN

CONTENTS:

2 carousel trays of color slides - 80 slides each
audio cassette - duration 25 minutes.
audible and inaudible advance
script

AIMED AT:

16+ age group

SUBJECT:

The slide and cassette show features a number of interviews with women; some already starting careers in various engineering fields, some still at college studying to be engineers, and there are also a few words from their husbands. The slides show women working in industry, working with equipment, the need to study math and science subjects and shows the many opportunities available for women in engineering.

PRODUCED BY:

Engineering Extension Service
Washington State University
Pullman, Washington

CODE #003

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

JUNIOR HIGH OUTREACH

CONTENTS:

33 color slides
script

AIMED AT:

junior high (13/14 years)

SUBJECT:

The Junior High Outreach is a program designed to inform young students of possible careers in engineering, while they still have time to take the right classes in school to prepare themselves for admittance into an engineerng college or university.

The program gives a brief outline of each field of engineering, showing equipment with men and women using them.

PRODUCED BY:

S.W.E.
IDE Building
Room #4
West Lafayette, IN

CODE #004

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

BOSTON UNIVERSITY HIGH SCHOOL OUTREACH PROGRAM

CONTENTS:

59 color slides (some missing)
script

AIMED AT:

high school students considering applying to university/college

SUBJECT:

The slide show uses everday objects to illustrate the different fields of engineering design. It leads into the qualifications necessary to pursue an engineering course and discusses what a student may expect from an engineering course at college.

PRODUCED BY:

Boston University
Student Section

CODE #005

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

MATH-SCIENCE PLAYHOUSE PROJECT

CONTENTS:

1 video cassette - VHS
duration 20 minutes.

AIMED AT:

13+ age group

SUBJECT:

A group of women demonstrates that they can design and build a playhouse for a children's playground. They show how engineers work as team; designing the structure, planning the work, organizing the correct tools and materials, and how tradespeople and technicians do the actual building work.

The film not only gives an insight into the various engineerng disciplines and how they interact, but also shows a group of women working together, both in conceiving and planning a project and in taking on manual labor.

PRODUCED BY:

Sacramento City College and United-Tribune Cable

CODE #007

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

CAREERS IN ENGINEERING

CONTENTS:

136 color slides

AIMED AT:

SUBJECT:

The slides show men and women working in the different fields of engineering, but without a script it is difficult to assess its impact.

PRODUCED BY:

The Bell Company, AT&T.

CODE #008

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

RESOURCES FOR WORKING WOMEN 1983

CONTENTS:

1 catalog, 18 pages

AIMED AT:

Working women, women's groups, etc.

SUBJECT:

This is a catalog of inexpensive and easy-to-use materials, some of which are designed specifically to address the needs of minority, rural disabled women, while others include information on a wide range of non-traditional careers and occupations. Still others provide workshop guides and training manuals for programs that develop skills, advance educational opportunities and eliminate sex bias and stero typing.

PRODUCED BY:

Women's Educational Equity Publishing Center

CODE #009

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

216 RESOURCES FOR EDUCATIONAL EQUITY 1983

CONTENTS:

1 catalog. 46 pages

AIMED AT:

Youth group leaders

SUBJECT:

This is a catalog of resources; audio-visual and printed material, available from the Women's Educational Equity Act Publishing Center.

There are progams for every aspect of education; from early childhood, through career counseling, to curriculum development. The catalog contains descriptions of resources you can use with students in class or individually, with parents in seminars or workshops, and with other educators in training sessions.

PRODUCED BY:

Women's Educational Equity Act Publishing Center

CODE #010

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

CAREERS IN ENGINEERING

CONTENTS:

1 carousel tray of 134 color slides
script
detailed list of slides

AIMED AT:

16+ age group

SUBJECT:

The script of this slide show takes the form of 6 women engineers talking about their work and leisure pursuits, and would be most effective if different voices were used to narrate the various parts. The fields of engineering covered include: geological, industrial, civil, quality control, etc. The 6 women discuss their work showing that engineering can cover both office and outdoor work; talk about their leisure activities; and relate how their work impacts on their family life. All the women have a very positive attitude to their work and the emphasis is on design and decision-making abilities.

PRODUCED BY:

Society of Women Engineers - Denver Section

CODE #011

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

WOMEN IN ENGINEERING

CONTENTS:

1 carousel tray of 73 color slides
Audio cassette - duration 15 minutes
  inaudible advance
  female narrator
script

AIMED AT:

16+ age group

SUBJECT:

The show opens with the space shuttle, showing 8 women engineers being prepared to participate in future flights. A bright and exciting future can be anticipated in engineering. Other fields of engineering are explored, with role models describing their work. In each case the engineer's qualifications are given, and emphasis is placed on the need to study maths and science to degree level, but it is also pointed out that women considering engineering as a career should not be put off by the complicated sound of the work; as a college course will prepare them for their chosen field.

Other careers leading from engineering are also approached such as management and technical sales, and the overall requirements for any involvement in technical areas are shown to be problem solving abilities and good communication skills.

PRODUCED BY:

Society of Women Engineers - Houston Area Section

CODE #012

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

THE SKY'S THE LIMIT IN MATH-RELATED CAREERS

CONTENTS:

book, 44 pages

AIMED AT:

16+ age group

SUBJECT:

Several hundred women working in math-related fields took time to fill in questionnaires, showing their thoughts about education and careers. This book introduces some jobs that use mathematical training - jobs in laboratories, computer centers, universities, insurance companies and government offices for example. Within each section is a description of the sort of work the job entails, some quotes from women working in that field, and some examples of the type of college courses and other training necessary for the job.

The book includes a number of black and white photos of successful women at work and concludes with a list of the women involved in the questionaire, and with a list of professional organizations that could be of use to women considering a math-related career.

PRODUCED BY:

Judy Askew, Mills College, Oakland, California for
Women's Educational Equity Act Program

CODE #013

SOCIETY OF WOMEN ENGINEERS

AUDIO-VISUAL LIBRARY

TITLE:

ENGINEERING: CAREERS FOR WOMEN

CONTENTS:

1 video cassette - VHS
duration 30 minutes

AIMED AT:

16+ age group

SUBJECT:

Four women engineers from different disciplines - structural, electrical, telecommunications and computer/medical - discuss their jobs and career paths. They stress the need for students considering engineering to study maths and science; to be creative and resourceful and to enjoy problem solving. A section of the film discusses requirements for an engineering degree and several students talk about the courses they are taking and the work they eventually hope to do.

PRODUCED BY:

Women in Science Videotape Series
University of Michigan

CODE #014

CHAPTER VI

ATTACHMENTS

NATIONAL CAREER GUIDANCE COMMITTEE
VOLUNTEER FORM

NAME: ______________________________

ADDRESS: ______________________________

____

____

PHONE: ________________ (home) ________________ (work)

SECTION: ______________________________

YEAR: ________________

Please check all areas of interest:
(see discriptions of national career
guidance subcommittees in the career
guidance Ideabook)

- ☐ International Science and Engineering Fair
- ☐ Career Guidance Reference Subcommittee
- ☐ Publications Research Subcommittee
- ☐ Convention Coordination Subcommittee
- ☐ Career Guidance Annual Report Judging
- ☐ Corning Glass Works Incentive Award Judging
  - ☐ Member Sections
  - ☐ Student Sections
- ☐ Scribe Award Judging
  - ☐ Member Sections
  - ☐ Student Sections
- ☐ Audio/Visual Award Judging
  - ☐ Member Sections
  - ☐ Student Sections
  - ☐ Special Projects

Please describe any special project ideas you have in the space below:

ATTACHMENT
VI-A

CAREER GUIDANCE IDEABOOK
NEW IDEA FORM

TITLE OF PROGRAM________________________________

Submitted by:

NAME:____

ADDRESS:____

____

PHONE:____________________ ____________________

home work

SECTION:____

TARGET AGE OF PROGRAM____________________________

DESCRIPTION OF PROGRAM:
Include in the description
1). Number of people needed for planning phase and implemention.
2). Amount of funding necessary to carry out program (itemize funds if possible)
3). Schedule for the program day
4). Any problems that were given to participants and answer sheet.
5). Any special materials or facilities required
6). Description of successful run of the program
7). The name of person to contact for additional information about the program.
8). Attach clean copies of letters, problem sheet, etc.

ATTACHMENT
VI-B

SOCIETY OF WOMEN ENGINEERS
AWARDS PROGRAM

CAREER GUIDANCE ANNUAL REPORT

This report must be submitted by May 15 to
the Career Guidance Committee Chair

FOUR COPIES ARE REQUIRED

Section Name: ______________________________

I. Section General Information

A. Number of SWE members, all grades, as of January 1, 198 . ______

B. Year Section was chartered ______.

C. Names of members who would like to serve on National Career Guidance Committee ______________________________

D. Person filing this report:
Name: ______________________
Address: ______________________
____
Telephone: ______________________

Signature: ______________________

E. Person to contact next year for information on career guidance activities:
Name: ______________________
Address: ______________________
____
Telephone: ______________________

F. What kinds of activities do you think the National Career Guidance Committee should pursue?

1. Support ______________________________

2. Direct ______________________________

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ATTACHMENT
VI-C

II. Basic Program

These are activities basic to most Sections' CG programs. An activity form should be filled out only if special events added significantly to the usual program.

A. Science Fair Participation

	# Judges	# Awards*	Total $*
Local	________	________	________
Regional	________	________	________
State	________	________	________

***Awards, $, sponsored by SWE Section directly.**

Basic Program Discription form reference #________
Activity form (for effort associated with the fair other than judging) reference #________

B. Certificate of Merit

________# of schools contacted
________# of schools participating
________# of certificates awarded
________# of schools where certificates were presented in person by SWE members. Estimated total audience ________.

Basic Program Description form reference #________
Activity form (for events associated with the certificate program other than soliciting,awarding, or presenting) reference #________

C. Speakers' Bureau

	# of Contact Hours	Total Audience Hours
Elementary students	________	________
Junior High students	________	________
High School students	________	________
College students	________	________
Re-entry Adults	________	________
Teachers/Counselors	________	________
Parents	________	________
Other-specify	________	________

Basic Program Description form #________
Activity form (for special events associated with the speaker program but NOT summarized above) reference #________

Note: Total audience hours are equal to the total number of people contacted times the average length of time contacted. Number of contact hours should equal total time SWE members spent speaking. Please note separately those contact hours and audience hours where you solicited nonmember engineers to speak through your Speaker program.

III. Additional Career Guidance Activities

An Activity Form should be completed for each separate activity conducted or participated in by your Section. Copy blank forms as needed. Number these forms sequentially for reference.

A. Youth-oriented activities

Form #	Type of Activity
	Job shadowing
	Junior Achievement
	Scouting
	Girls' Clubs
	Campfire Girls
	JETS (Junior Engineering Technical Society)
	COMETS Programs
	Career Fair booths, exhibits
	Field trips
	"Expanding Your Horizons"
	Adopt-a-school program
	Scholarships
	One-to-one discussion
	Other
	Other

B. College-oriented activities

Form #	Type of Activity
	Provide Student Section Counselors
	Women in Science & Engineering (WISE)
	Job Shadowing
	Women's Centers
	Student Section Activities
	Student Section Joint meetings
	Field Trips
	Engineers' week activities
	Scholarships
	One-to-one discussion
	Other
	Other

C. Educator activities

Form #	Type of Activity
	Counselor workshops
	Teacher Convention workshops
	One-to-one discussion
	Other

ATTACHMENT
VI-C(3)

D. Re-entry activities

Form #	Type of Activity
______	Community Women's Center
______	Workshops
______	University liaison
______	One-to-one discussion
______	Other
______	Other

E. Community activities

Form #	Type of Activity
______	Service organizations (Kiwanis, Lions)
______	Women's organizations
______	Professional/Technical Societies
______	Governmental bodies
______	One-to-one discussion
______	Other
______	Other

IV. Contributions to National/Regional Career Guidance

Form #	Type of Activity
______	____________________
______	____________________
______	____________________

ATTACHMENT
VI-C(4)

SOCIETY OF WOMEN ENGINEERS

CORNING GLASS WORKS INCENTIVE GRANT

MEMBER SECTIONS

Section Name Section Number

Program Title

Program Description:

How has the program been used to date?

How will the money be used to continue, expand or improve the program?

Submitted by : Name

Address

For consideration, this grant application must be submitted by May 15 to the Career Guidance Committee Chair.

ATTACHMENT
VI-D

CORNING GLASS WORKS INCENTIVE GRANTS

STUDENT SECTIONS

Project Title: ____

Project Description:

Planning man-hours: ________.
Number of members participating in planning _____; in contact _____.
Number of nonmember engineers helping in planning _____; in contact _____.
Number of people in audience _____.
Age/Description of audience ____________________________________.
Duration of event, hours _____.
Who sponsored this event? ____________________________________

Person to contact for more information regarding this event:

Name: ________________________

Address: ______________________

____

Telephone: ____________________

PLEASE SUBMIT ONE FORM FOR EACH DIFFERENT TYPE ACTIVITY YOUR SECTION PARTICIPATED IN DURING THE FISCAL YEAR. PLEASE SUBMIT FIVE COPIES BY MAY 1

ATTACHMENT
VI-E